



Psiber Data
WireXpert
User Manual

WX Series, (WX4500, WX500)



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CAUTION

A **CAUTION** notice denotes a hazard.

It calls attention to an operating procedure, practice, or the like that, if not correctly performed or adhered to, could result in damage to the product or loss of important data. Do not proceed beyond a **CAUTION** notice until the indicated conditions are fully understood and met.

WARNING

Operating procedure, practice, if not correctly performed or adhered to, could result in personal injury or death. Do not proceed beyond a **WARNING** notice until the indicated conditions are fully understood and met.

General Safety Information

WARNING

Do not use the device if it is damaged. Before you use the device, inspect the casing. Look for cracks or missing plastic. Do not operate the device around explosive gas, vapor, or dust.

Always use the device with the cables provided.

Observe all markings on the device before establishing any connection.

Turn off the device and application system power before connecting to the I/O terminals.

When servicing the device, use only the specified replacement parts.

Do not operate the device with the cover removed or loosened.

Use only the power adapter provided by the manufacturer to avoid any unexpected hazards.

CAUTION

If the device is used in a manner not specified by the manufacturer, the device protection may be impaired.

Always use dry cloth to clean the device. Do not use ethyl alcohol or any other volatile liquid to clean the device.

Do not permit any blockage of the ventilation holes of the device.

Environmental Conditions

This instrument is designed for indoor use and in an area with low condensation. The table below shows the general environmental requirements for this instrument

Environmental conditions	Requirements
Operating Temperature	0 °C to 50 °C
Operating humidity	20% to 85% RH non-condensing
Storage temperature	20 °C to 70 °C
Storage humidity	5% to 90% RH non-condensing


NOTE

The WX4500, WX500 complies with the following Safety and Regulatory requirements.

DIN EN 55024, Edition:2003-10 (IEC/CISPR 24:1997, modified + A1:2001 + A2:2002); EN 55024:1998 + A1:2001 + A2:2003

DIN EN 55022; VDE 0878-22:2008-05 (IEC/CISPR 22:2005, modified + A1:2005); EN 55022:2006 + A1:2007

Regulatory Markings

	The CE mark is a registered trademark of the European Community. This CE mark shows that the product complies with all the relevant European Legal Directives.
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Declaration of Conformity



Manufacturer's Name

Psiber Data Pte. Ltd

Manufacturer's Address

3 Science Park Drive #03-08,
The Franklin Singapore Science Park 1,
Singapore 118223

Declares under sole responsibility that the product as originally delivered

Model Number

WireXpert, **WX4500-FA, WX500**

Description

Class FA Copper Certification Kit

Equipment

Cable Certifier

Complies with the essential requirements of the following applicable European Directives and carries the CE marking accordingly:

DIN EN 55024, Edition:2003-10 (IEC/CISPR 24:1997, modified + A1:2001 + A2:2002); EN 55024:1998 + A1:2001 + A2:2003

DIN EN 55022;

VDE 0878-22:2008-05 (IEC/CISPR 22:2005, modified + A1:2005);

EN 55022:2006 + A1:2007

Signature

Arvind C Patel

Quality Management

Psiber Data Pte. Ltd.

www.psiberdata.com

Date :

December 14, 2010

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Chapter 1: Getting Started

Unpacking the box (WX4500-FA/WX500-FA)



**Softcase
(WX_AC_SOFTCASE)**



**WireXpert WX4500 or
WireXpert WX500
(Local and Remote)**



**Calibration Certificate
& USB Flash Drive**



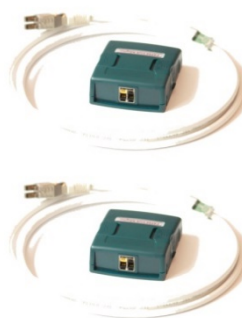
**Power Adapters -
Input: 100-240VAC/0.8A
Output: 12VDC/3.0A
(WX_AC_CHARGER)**



**Talk-set headphones
(WX_AC_TALKSET)**



**CAT 6A Channel
adapters
(WX_AD_6ACH)**

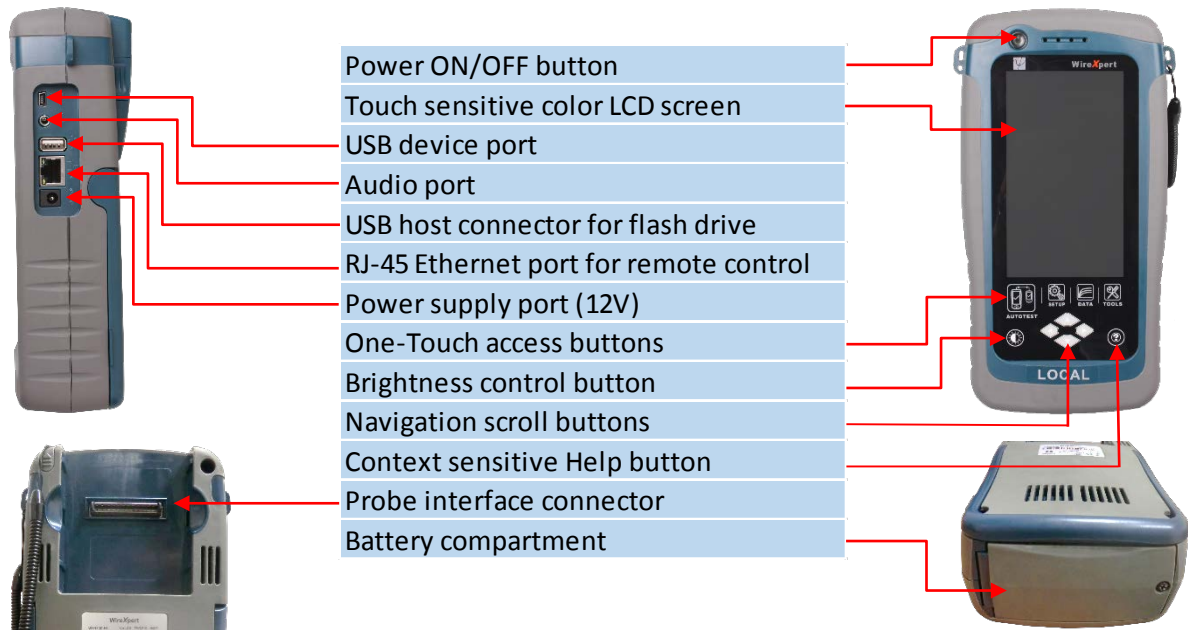


**Permanent Link
adapters & cords
(WX_AD_6APL)**

Key differences between WX4500 and WX500

Feature	WX4500	WX500
Frequency of measurement	2500 MHz	500 MHz
Accuracy Specification	Level V+ (Level 2G ...)	Level IV
Fiber Testing option	Yes	No
Class FA/CAT 8 options	Yes	No
Patch Cord Test adapters	Yes	Yes

WireXpert Overview



Item	Functionality
Power ON/OFF Button	Powers on or shuts down the device. Press and hold for 5 seconds to power on device. Press and hold for 2 seconds to shut down device. Turns red when charging.
Touch Sensitive LCD screen	Performs test executions and viewing of results.
USB device port	Enables remote connection to the PC for firmware update and exporting saved results.
Audio port	Enables vocal communication between Local and Remote units when connected to talkset headphones (WX_AC_TALKSET).
USB Host port	Enables results to be exported and firmware upgrade via USB flash drive. Enables loading of custom limits and labels for list based testing.
RJ-45 Ethernet port	Enables communication between two sets of WireXpert for Alien Crosstalk testing.
Power Supply port	Performs charging of device when connected to power adapter shipped with WireXpert.
One-touch access buttons	Main functional buttons for WireXpert. Enables quick

	autotest and results viewing in a single click.
Brightness Control	Adjusts the brightness level of the LCD display.
Navigation scroll buttons	Performs navigation in long lists.
Context sensitive help	Provides simple explanation relevant to the functionality on the current screen.
Probe interface connector	When connected with different probe adapters (e.g. CAT6A channel or Permanent Link), WireXpert will enable specified certification test to be conducted.
Battery compartment	Battery storage compartment. Unscrew to replace battery (WX_AC_BATT).

WireXpert Kits

The following kits can be ordered to perform more certification tests using WireXpert.

Product Number	Name	Description
WX_AD_6ACH_KIT WX_AD_6APL_KIT	Copper Certification Kit	Certification kit for testing channel or permanent link connections up to Cat6A.
WX_AD_FACH_TERA_KIT WX_AD_FAPL_TERA_KIT	Class FA Certification Kit	Certification kit for testing channel or permanent link connections for Class FA in TERA connector. Also available in GG45 connector.
WX_AD_M12CH_4_KIT WX_AD_M12XCH_8_KIT	Industrial Ethernet Certification Kit	Certification kit for testing industrial Ethernet M12 or M12 X-coded channel connections.
WX_AD_VNA_KIT	Laboratory Setup Certification Kit	Certification kit for vector network analysing.
WX_AD_SM_KIT	Single Mode Fiber Certification Kit	Certification kit for testing 1310nm and 1550nm single mode fiber SC links. Also available in LC links.
WX_AD_MM_KIT_VCL	Multi-Mode Fiber Certification Kit	Certification kit for testing 850nm and 1300nm VCSEL based multi-mode fiber SC links. Also available in LC links.

WX_AD_MMEF_KIT	Encircled Flux (EF) Compliant Multi-Mode Fiber Certification Kit	Certification kit for testing EF compliant 850nm and 1300nm multi-mode fiber FC links.
WX_AD_MPO_KIT	Multi-Fiber Push-On (MPO) Certification Kit	Certification kit for MPO testing.

Please contact Psiber Data for more comprehensive product offerings and catalogue.

Dual Control System (DCS)

WireXpert consists of two identical devices for dual-end testing and certification. Both devices utilise easy to use LCD touch-screen technology and graphical user interface. The DCS enables quick and real-time data retrieving on both ends, improving efficiency and productivity significantly.

WireXpert Adapters

All test adapters are designed to fit onto every WireXpert units. The device automatically detects adapters when connected and configures its interface to the matching parameters and limits.

Link and Channel Adapters

Every standard WireXpert kit includes adapters for testing copper cablings in Permanent Link and Channel configurations.

Channel adapters connect to the patch cords at the wall plates and telecommunication panels. WireXpert software compensates for the adapter's transmission characteristics to ensure test results will not be affected.

Permanent Link adapters connect to the wall plates and telecommunication panel jacks. WireXpert software compensates for the adapter's transmission characteristics to ensure test results will not be affected.

WireXpert's Permanent Link adapters' high precision interface reduces the degrading issue between the RJ-45 jack and link cord, providing highly accurate and repeatable measurements, and cost efficient method of replacing the link cords instead of the expensive link adapters.

Adapter Configuration Warnings

WireXpert will display a warning a potential conflict is detected between the adapter and the test settings. It is important to use the appropriate adapters as accuracy of measurements will be affected, notably for installation on Category 6A or higher standards.

Cabling Certification and Tests

Certification testing with WireXpert is highly intuitive and simple. The autotest function performs a series of measurements between the Local and Remote devices and analyses the results to determine if the cabling run passes or fails the selected standards.

Copper Cable Certification Testing

Test at both ends of structured twisted pair cables for the worst case performance are required in accordance to the ISO/TIA standards. All certification testing requires a two-part test consisting of a main and remote unit, both bearing similar test capabilities. The test would be conducted with one end from the telecommunication closet, and the other at the outlet.

The two primary considerations when testing:

- Whether the user patch cords are included in the cabling run during the test.
 - > If so, channel test configuration is required.
 - > If not, link test configuration is required.
- Which standard should be used (Category or Class).

Permanent Link Configuration Tests

The Permanent Link configuration is generally used in facilities still under construction and do not include user patch cords. As the link configuration does not include the two additional connections of the patch cords, performance standards are more stringent. Special link adapters are used on both local and remote units for links that are under test.

Channel Configuration Tests

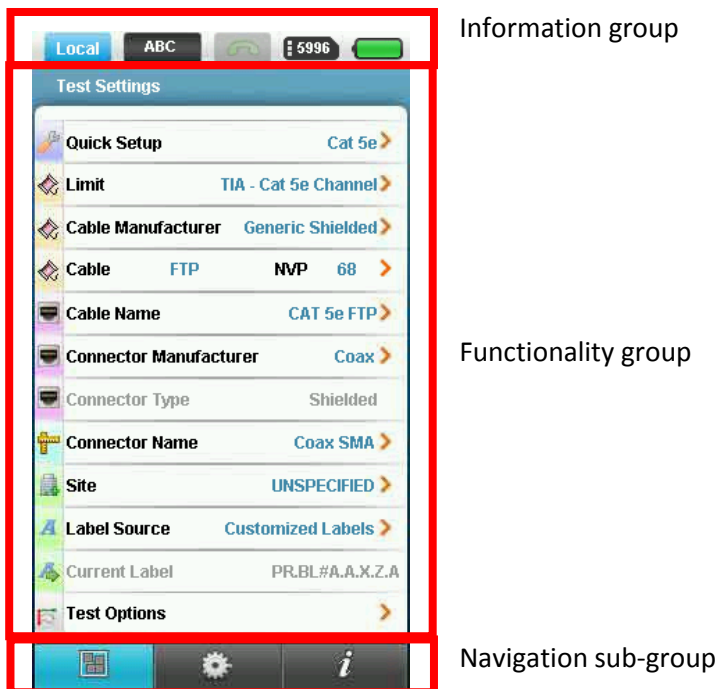
User patch cords are included for the Channel configuration. The pass/fail limits for this configuration allows performance degradation inherent in the two additional patch cords included in the measurements, thus is less stringent. Special channel adapters are used on both local and remote units for channels that are under test.

WireXpert User Interface

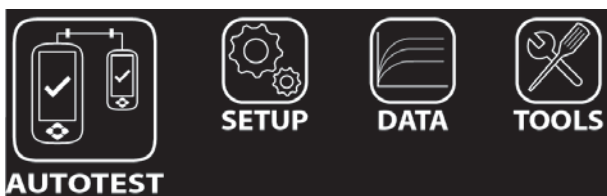
Touch Screen Layout

The touch-screen interface of WireXpert can be divided into three groups.

1. The Information group at the top provides hardware information such as the device Information (Local/Remote), name, battery level, etc.
2. The Functionality group provides setting options necessary to conduct an AUTOTEST.
3. The Navigation sub-group provides functional settings in the functionality group.



The One Touch Access Buttons



The fundamental philosophy behind the WireXpert User Interface is simplicity in its ease of use. The main functions of the One-Touch access buttons as follows:

AUTOTEST



The “**AUTOTEST**” button will perform an immediate certification test on the last configured settings. If no settings were configured, default settings will be used.

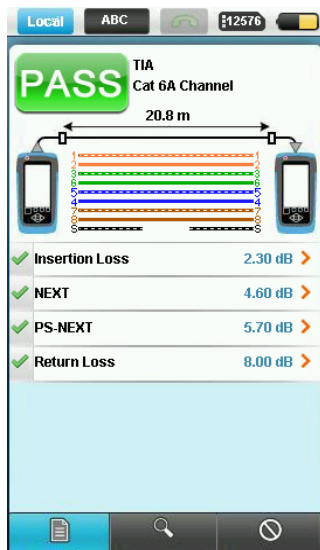
Test results will be generated automatically after the test is completed.

You will receive any of the following 3 results after the “AUTOTEST”:

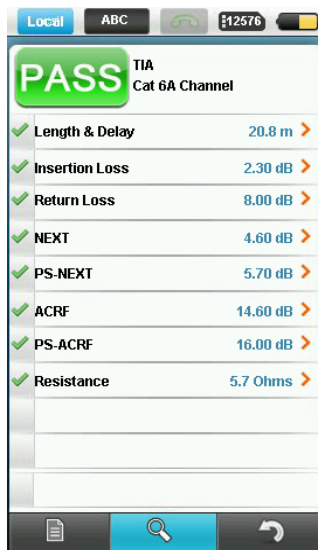
- Green “PASS” – Good test result in accordance to pre-defined settings
- Green “PASS*” – Marginal pass result with some disturbance. Acceptable results.
- Red “FAIL” – Unacceptable results with sever disturbance on one or more test parameters.
- Red “FAIL*” – unacceptable results with slight disturbance on one or more test parameters.

You will be given the option to “View” a more detailed result or “Cancel” test result. If “Detailed” test results is chosen, additional test parameters will be displayed and plot will be generated when parameter is chosen. If “Cancel” is chosen, you will be prompted to “Save” the test result or continue with “Cancel”.

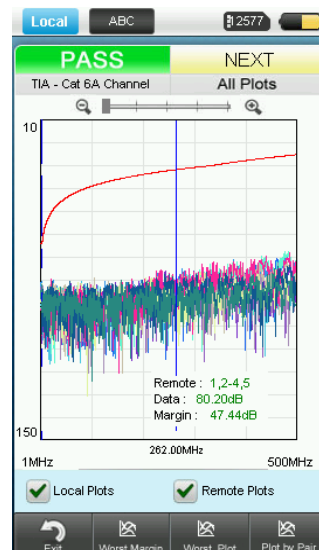
An “AUTOTEST” will fail in the event of missing connection at the near-end (Local) or far-end (Remote) or wrong settings configured.



AUTOTEST results



Detailed test results



Plots

The type of results will differ depending on the Test Limits and type of cable.

SETUP

The “**SETUP**” button provides setting options necessary to conduct an AUTOTEST. These options include –

Test Settings

- Quick Setup – Enables quick selection with predefined configurations for commonly used cables.
- Limit – Choose from a list of standards to determine the performance criteria in a given category or class.
- Cable Manufacturer – Choose from a list of cable manufacturer for more specific test parameters. If unsure of manufacturer, choose “Generic UTP” or “Generic Shielded”, or “Customized Cable” to create custom cable.
- Cable NVP – Determine the Nominal Velocity of Propagation (NVP) value of the cable.
- Cable Name – Choose from a list of cable type in a given category or class.
- Connector Manufacturer – Choose from a list of connector manufacturers for more specific test parameters. If unsure of manufacturer, choose “Un-Shielded Connector” or “Shielded Connector”, or “Customized Connector” to create custom connector.
- Connector Type – Automatically determined after connector manufacturer is selected.
- Connector Name – Choose from a list of connector names for more specific test parameters.
- Site – Create a new site for a new project or choose from a list of saved sites. Saved sites can be deleted on this option.
- Label Source – Choose from a list of cable labelling style.
- Current Label – Displays the label of the last test.
- Test Options – Advanced options that will affect how the test will be conducted and results will be displayed.

General

- Locator – If enabled, WireXpert will display Time Domain NEXT and Return Loss (RL) information in an autotest result.
- Cable Pairing Type – Choose T568A or T568B copper cable wiring standard.

- Start AutoTest on connection – If enabled, WireXpert will perform autotest on connection of cable to adapter.
- Direct Attach – If enabled, WireXpert will perform Direct Attach copper installation test. Attach Permanent Link adapter to the Local and Patch Cord adapter to the Remote unit to perform this test. Connect Local unit to patch panel and Remote to field terminated end.
- AC Coupled/PoE – If enabled,

Lab – Lab use only. Please contact Psiber Data for more information.

- Disable WireMap Test – If enabled, WireXpert will ignore failed wiremaps during test. Disabled on factory setting.
- Marginal Pass/Fail – If enabled, WireXpert will display marginal pass (PASS*) and marginal fail (FAIL*) results. Enabled on factory setting.
- Save Phase Data – If enabled, WireXpert will generate information for phase data plot generation. Export saved results to CSV format using eXport software to obtain phase data. Impedance plot will be displayed on eXport. Disabled on factory setting.
- 3 / 4 dB Rule – If enabled, WireXpert will ignore RL failures if Insertion Loss (IL) is <3dB and NEXT failures if IL is <4dB. Enabled on factory setting.
- Save Test Results – If enabled, WireXpert will prompt for saving of test results if the Auto Save Results settings is not enabled. Enabled on factory setting.

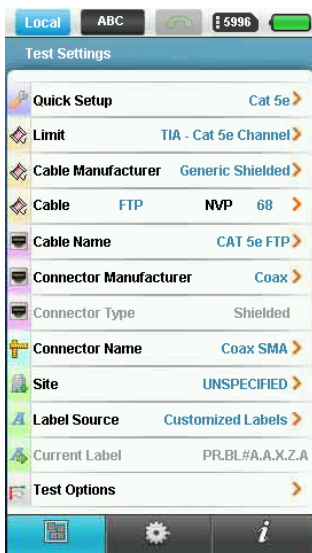
System Settings

- Time & Date – Determines how time and date will be displayed.
- Length Unit – Determines Meters (m) or Feet (ft) will be used as the default length unit displayed.
- Sleep Interval – Determines the inactivity period before the LCD enters sleep (power saving) mode.
- Auto Power-off Interval – Determines the inactivity before the device performs an auto shutdown.
- Audio Settings – Determines the volume and sound option to the device.
- Operator – Determines the name of the operator to the device.

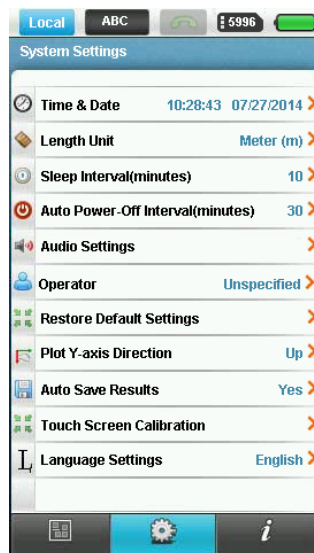
- Restore Default Settings – Erases all user defined settings and reloads default factory settings.
- Plot Y-axis Direction – Determines the presentation of the Y-axis on viewing detail test results.
- Auto Save Results – If enabled, WireXpert will automatically save all PASS test results with reference to the label source configured.
- Touch Screen Calibration – Performs touch calibration to the device.
- Language Settings – Determines the language used on the device.

Device Information

Displays device information such as device's and probe's serial number, firmware version, calibration date, probe type and probe test count.



Test Settings



System Settings

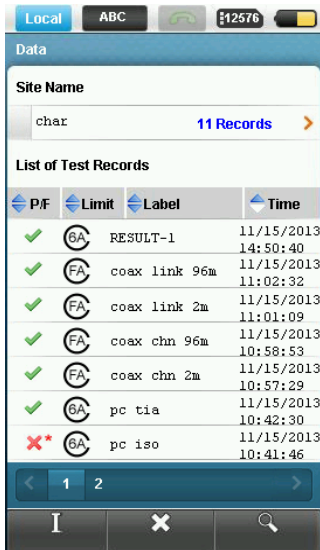


Device Information

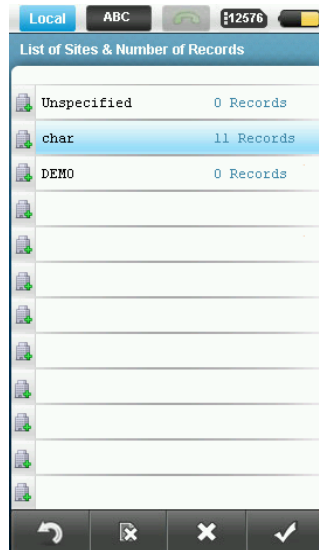
DATA



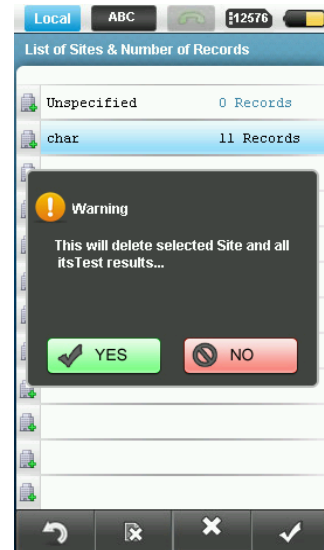
The “**DATA**” button provides archive and data management ability to saved sites and test results. Saved test results can be renamed or deleted in this option.



Saved test results



Saved Sites



Deleting of Sites

Note: Deleting a site will also delete its containing test results.

TOOLS

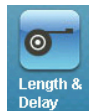


The “**TOOLS**” button provides advanced options for in-depth troubleshooting and expert WireXpert users. These options include-



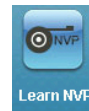
Requires:
Local and Remote

Wiremap – Performs test to verify if each wire in the cable is hooked up correctly, with no opens or shorts.



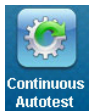
Requires:
Local or Remote

Length & Display – Performs a test to determine the length of each wire, total length and NVP of the cable..



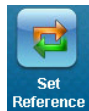
Requires:
Local or Remote

Learn NVP – Learns the NVP value of the cable by detemining the length of the cable.



Requires:
Local and Remote

Continuous Autotest – Performs a set number of autotest automatically.

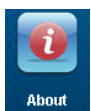


Requires:
Local and Remote

Set Reference – Performs loss compensation through calculation from setting of referencing point.



Factory Calibration – Performs reset and calibration to WireXpert. For use only at manufacturing facilities only.

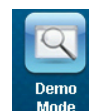


About – Displays worldwide contact information for Psiber Data.



Requires:
Local or Remote

Reset Probe – Resets Perm. Link adapter usage count once a new link cord is in place.



Requires:
Local or Remote

Demo Mode – Switches between live test or simulation mode.

WireXpert Firmware

Adapter Detection

WireXpert firmware automatically detects which adapters are connected to the local and remote units and configures the testing program to match these adapters. Conflicts between the installed and testing selections generate an error message.

Digital Fault Finding

WireXpert software automatically pinpoints cable fault locations and causes, speeding problem resolution and increasing operator productivity.

System Requirements

WX-4500 provides complete certification solutions to major copper cabling and fiber optic installations. Depending on requirements, separate kits, components or customised adapters can be purchased to provide more specialised tests and certifications.

WX-500 provides the best cost efficient solution for installers who wish to certify only up to Cat6A. WX-500 runs on the same hardware and firmware as WX-4500, but is calibrated to test only up to 500MHz.

For a list of available adapters, please visit www.psiberdata.com.

Data Management

WireXpert data management software, *eXport*, enables management of saved results such as finding, renaming, deleting, printing and creating custom labels. Please refer to *User Manual – eXport* for more information.

Adapter Probe

Configuration

WireXpert uses different adapters to test and certify different cabling runs. The device automatically detects which adapters are attached and selects matching test parameters.

Adapter Insertion Counts

Every WireXpert adapter is installed with a memory chip to keep track of the number of tests performed. This data ensures up to date information on the adapter's lifespan. WireXpert will indicate a warning when the adapter insertion counts has expired the specified insertion counts lifespan.

Memory

1Giga byte internal flash memory.

1Giga byte USB Flash Drive included allows for flexible test record storage.

Memory Requirements

The amount of memory that each test result takes up depends on the options that is configured before starting the test. If plots are saved with each test, file size of test results will be generally larger than one that has plots option omitted.

WireXpert allocates approximately 1 GB of internal flash memory for test result storage. The exact amount of memory available depends on the size of the WireXpert software.

The maximum memory size of the USB stick is limited to 4 GB.

Battery Information

WireXpert units are powered by Lithium Ion rechargeable batteries. These batteries contain circuitry that reports their state of charge to WireXpert. The units can be powered by external AC/DC power adapters. Connecting the adapters will charge the batteries concurrently.

A fully charged battery can operate WireXpert for five to eight hours before requiring recharging. Reducing the screen brightness and enabling the sleep function allows WireXpert to run longer on a charge.

WARNING

Do not calibrate or operate WireXpert while the battery is hot immediately after charging.

If the environment is causing the temperature rise, move the unit to a suitable environment. Contact your nearest Technical Support centre if in doubt.

CAUTION

Use only the supplied power supplies with the WireXpert kit. Using other powers may damage the tester and void its warranty.

Battery Safety

1. To avoid the risk of fire, burns or damage to your battery pack, do not allow metal objects to touch the battery contacts.
2. The battery pack is suitable for use only with compatible WireXpert devices.
3. Do not disassemble the battery pack. There are no user serviceable parts inside. Do not dispose the battery pack in fire or water.
4. Handle a damaged or leaking battery with extreme care. If you come into contact with the electrolyte, wash the exposed area with soap and water. If the electrolyte contacts the eye, flush the eye with water for 15 minutes and seek medical attention.
5. Do not expose the battery pack to high storage temperatures (above 55°C).
6. When discarding a battery pack, contact your local waste disposal provider regarding local restrictions on the disposal or recycling of Lithium Ion batteries.

7. To obtain a replacement battery (part number N2641A-135), contact your local dealer.
8. Do not charge the battery pack if the ambient temperature is above 40°C.

Power Supply

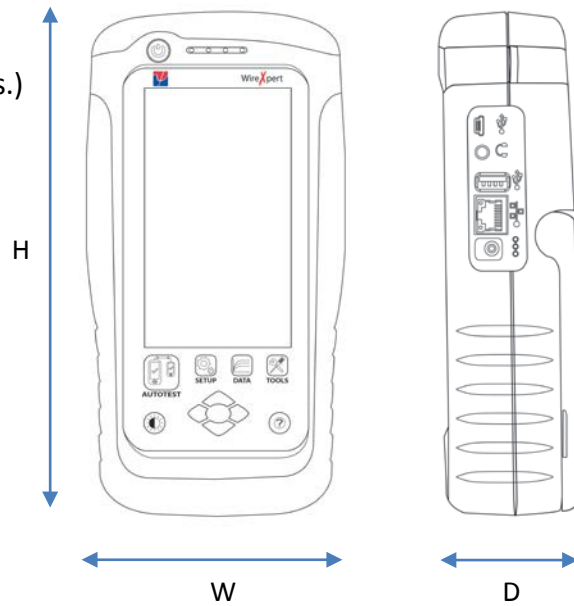
- Removable/rechargeable Li-Ion batteries provide more than 8 hours of continuous operation.
- AC power: 100~240V AC plugs directly into the battery. Can be recharged separate from the instrument.

Dimension

- Size: 220mmH x 110mmW x 53mmD
- Weight: approx. 1.0 kg (approx. 2.2 lbs.)

Environmental Conditions

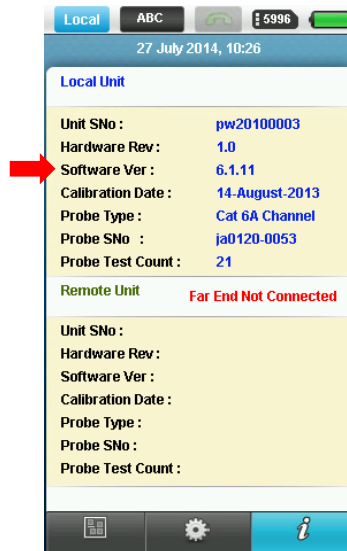
- Operating temperature: 0C to +40C
- Storage Temperature: -10C to +55C
- Relative humidity: 10% to 80%



Chapter 2: Using WireXpert

How do I check the firmware version?

Press the SETUP button > Device Information to check the software version and hardware version numbers. The device information page also display the last calibrated date. You are reminded to recalibrate your device after one year.



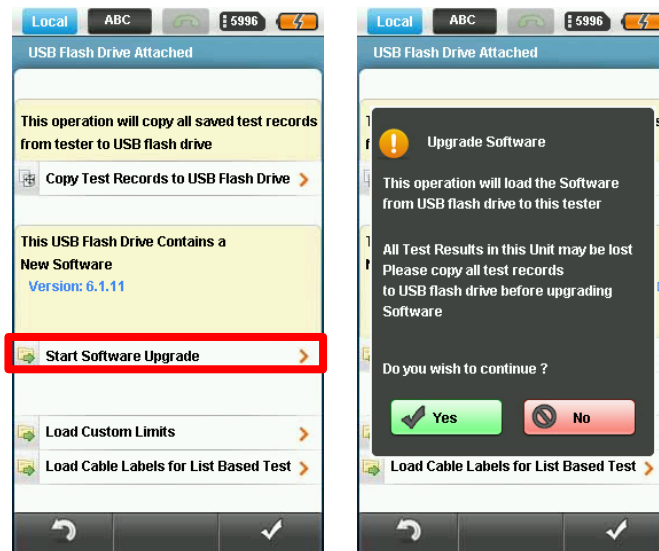
How do I know if I have the correct adapter for testing?

Press the SETUP button > Test Settings to check the test options available to determine if the right adapter has been installed.

How do I upgrade the firmware?

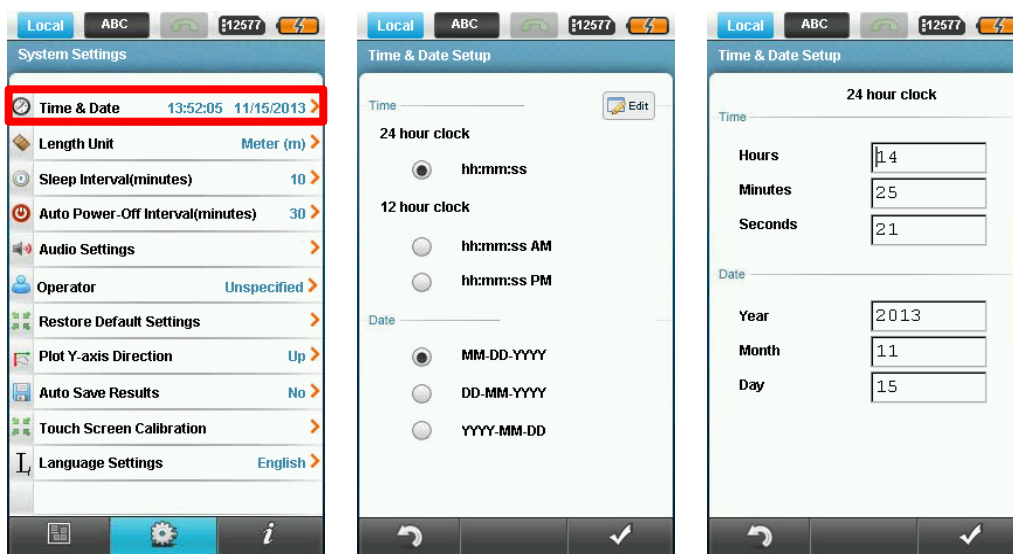
To upgrade WireXpert's firmware,

- Download and install the latest build of eXport software from psiberdata.com
- Export the firmware using an USB flash drive
- Backup the test results in the device
- Insert the flash drive to the USB port on WireXpert
- Choose the upgrade firmware option and click "Yes" to begin upgrade



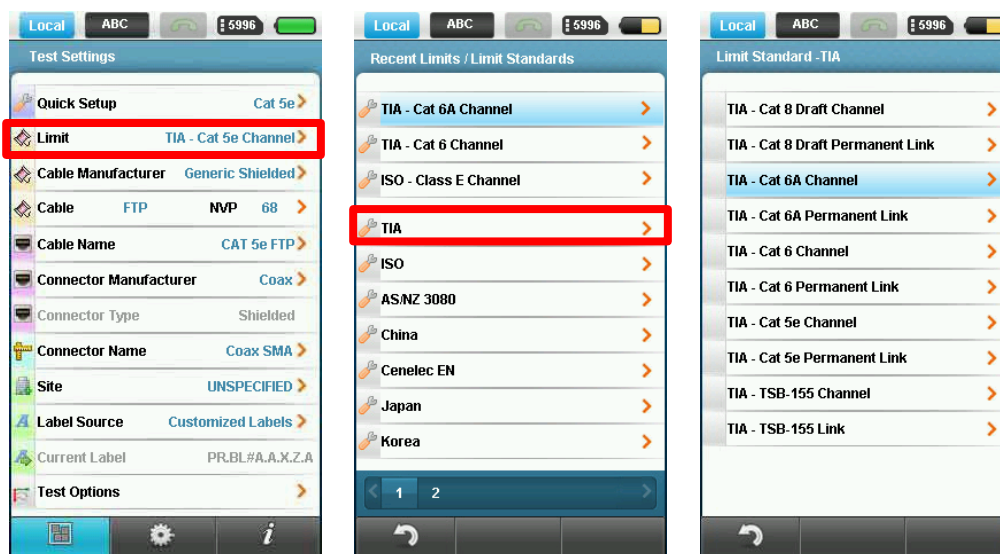
How do I setup date and time?

Press the SETUP button > System Settings and select the “Time and Date” option. Time and date display format can be selected, and time can be manually configured to match your local settings.



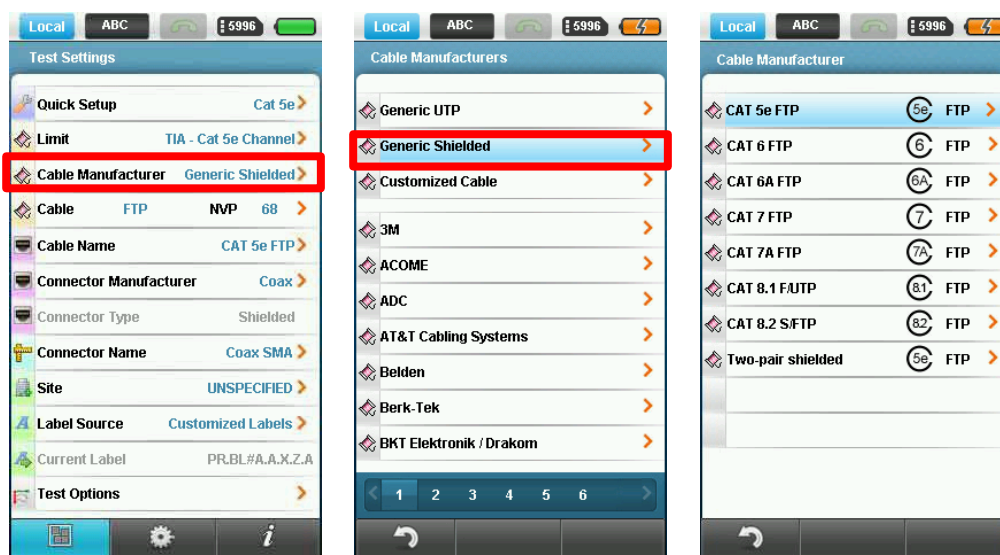
How do I select the limit?

Press the SETUP button > Test Settings > Limits to choose from a list of commonly used limits. Three recently used limit will be on top of the list.



How do I select the cable type for certification?

Press the SETUP button > Test Settings > Cable Manufacturer to choose from a list of cable manufacturers. If unsure of manufacturer, choose “Generic UTP” or “Generic Shielded”, or “Customized Cable” to create custom cable.

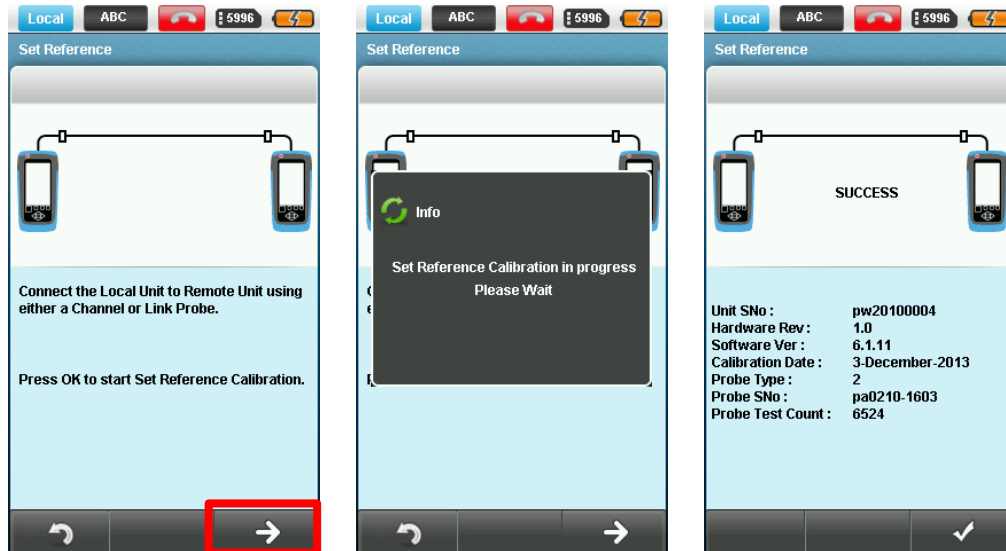


How do I set reference between Local and Remote units?

It is recommended to perform a set reference measurement if the Local and Remote units are being used for the first time. If there is a mismatch in firmware versions or expired calibrations, WireXpert will require you to perform a set reference.

To set reference,

1. Connect a Permanent Link adapter to the Local unit.
2. Connect a Channel adapter to the Remote unit.
3. Connect the 2 units together using the patch cord provided in the kit.
4. Press the TOOLS button > Set Reference
5. Click “next” to begin set reference.

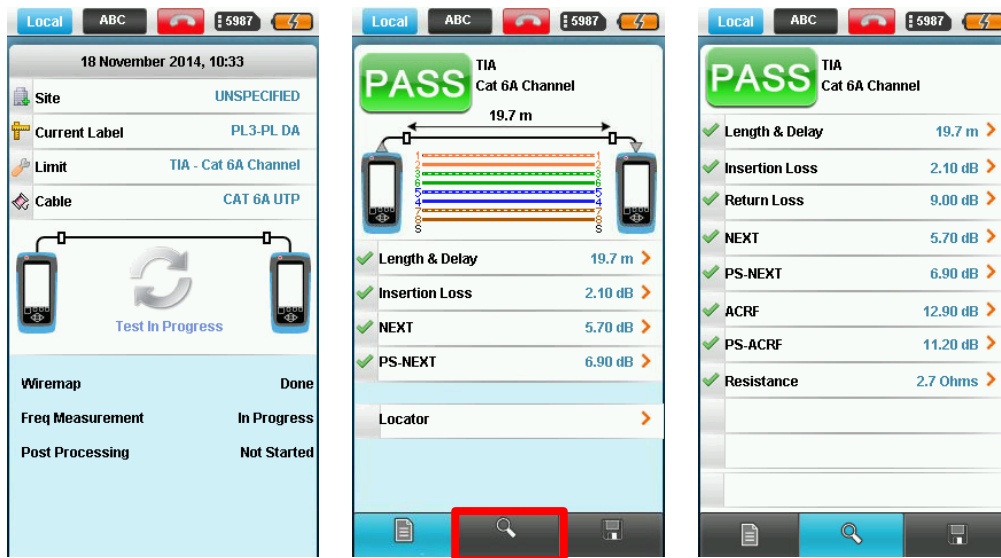


6. Set Reference will fail in the event of-
 - Adapter probe mismatch, i.e., two channel or permanent link adapters
 - Firmware version mismatch
 - No connection between Local and Remote units
 - Time-out

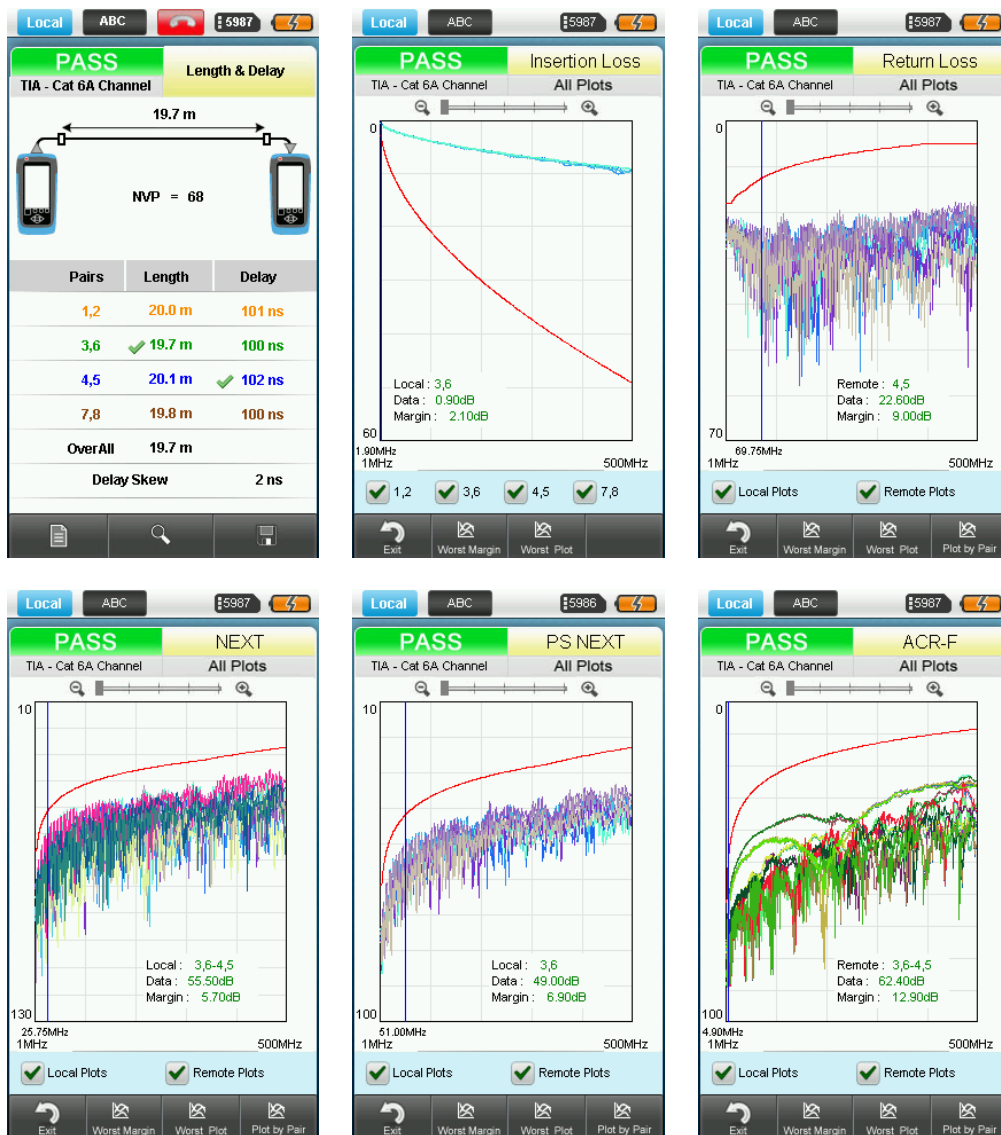
How do I perform a certification test (AUTOTEST)?

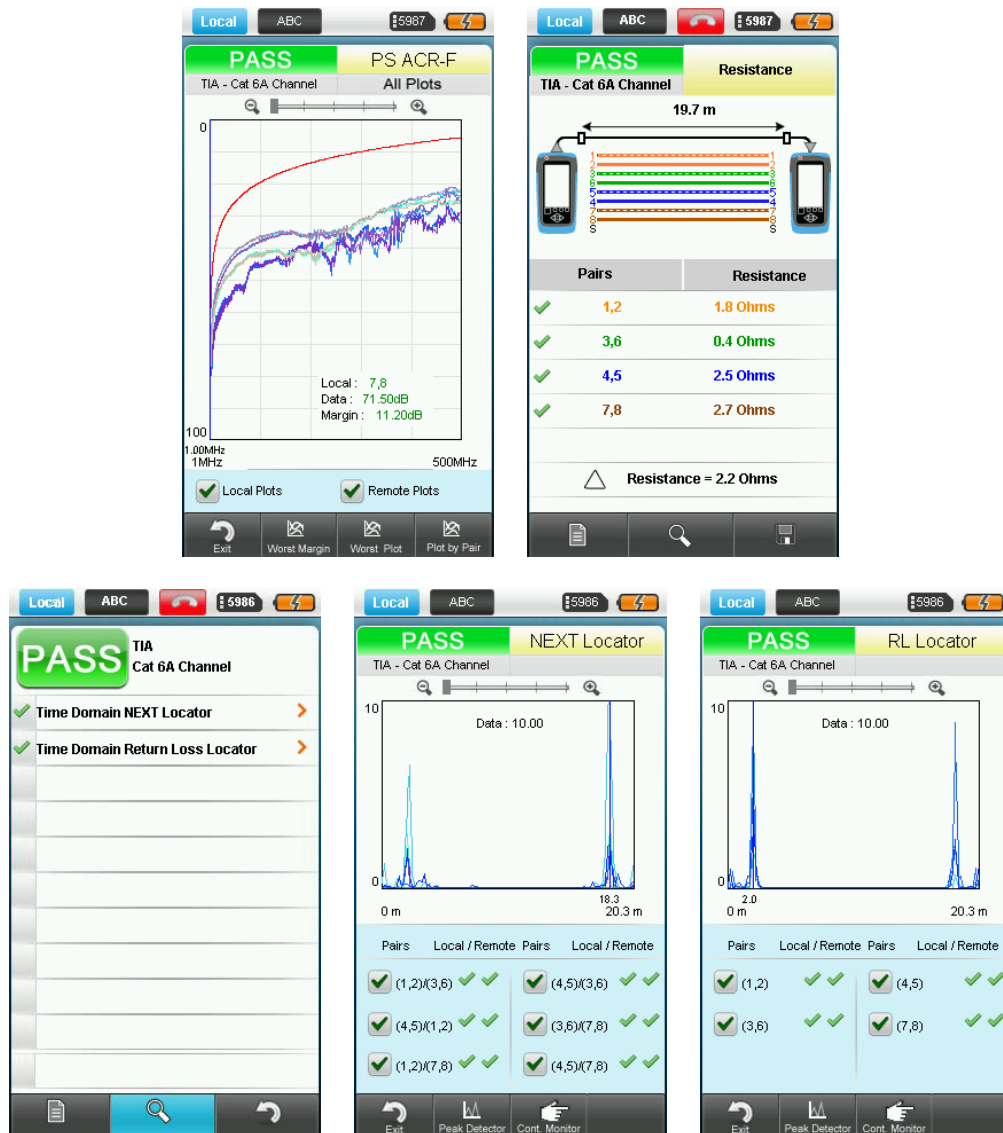
Press the AUTOTEST button once settings and limits have been selected. WireXpert will use the last configuration or factory settings to perform the AUTOTEST if new settings are not configured.

WireXpert will display summarized result with PASS or FAIL once autotest is completed. Press the “view details” button to view the comprehensive result.



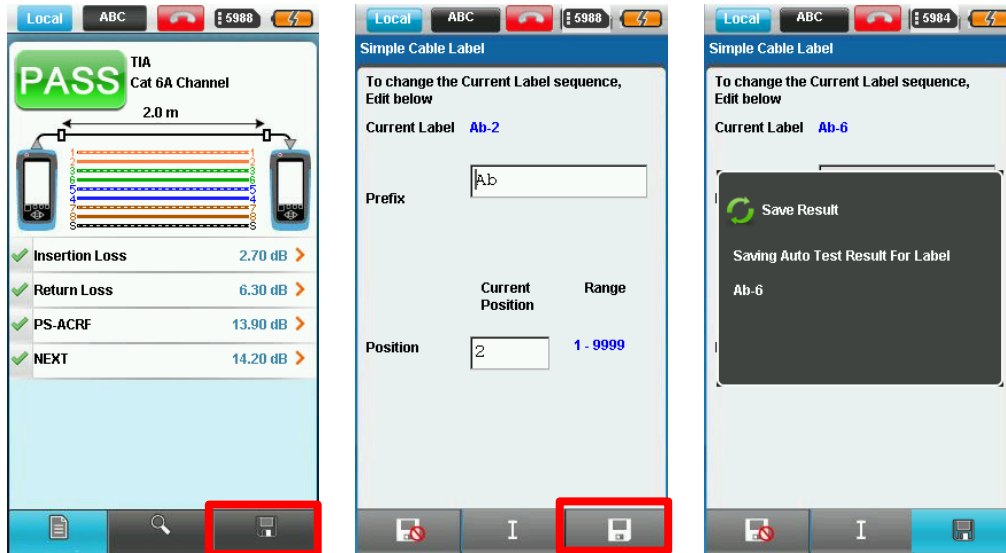
Click on the parameter to display a more comprehensive individual result.



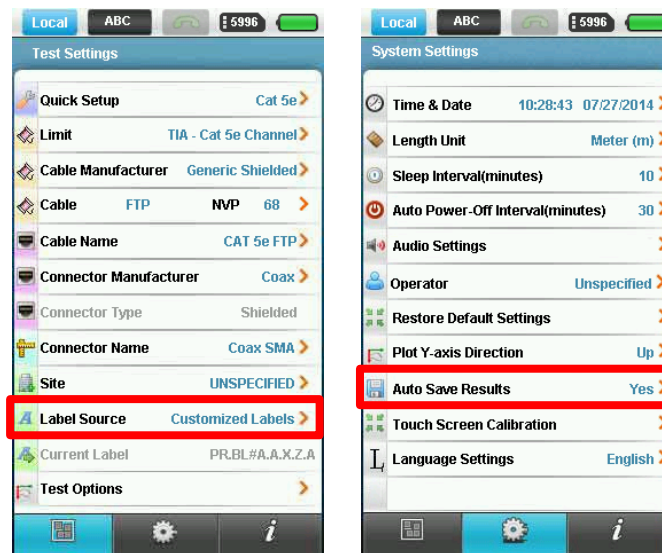


How do I save/view/delete test results?

Test results can be manually saved by pressing the “save” button after an autotest is completed. When prompted, key in the record name to continue saving.

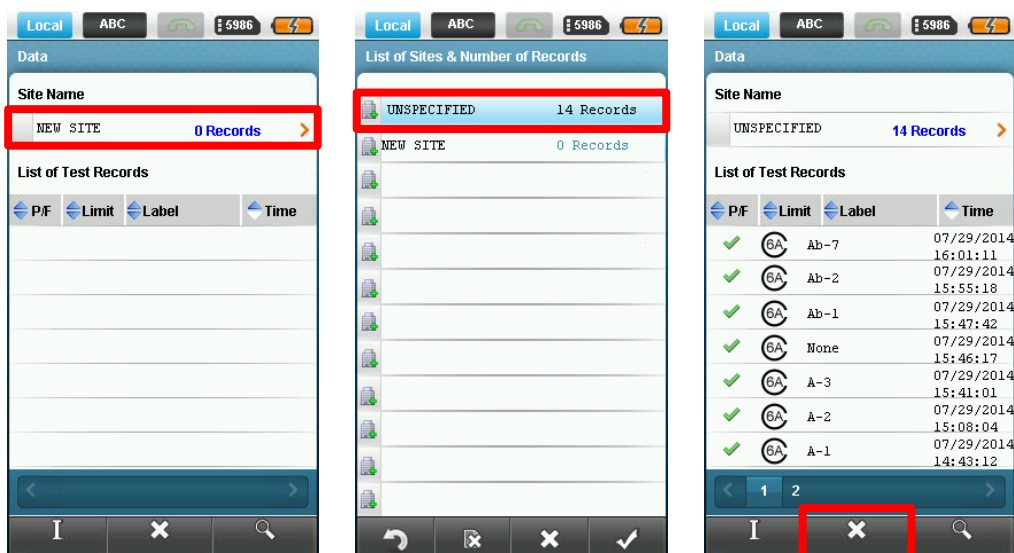


If auto saving is enabled (SETUP > System Settings > Auto Save Results), test results will be automatically saved with reference to the selected Label Source (SETUP > Test Settings > Label Source) when autotest is completed.



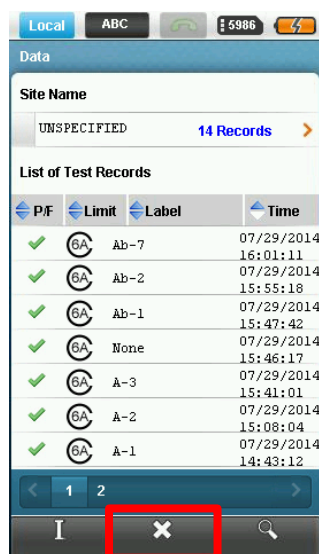
To view saved results,

1. Press the DATA button.
2. Select the site where the test results are saved. Click “ok” to proceed.
3. Select result and click “view” to view results.
4. Select the next page if for more results.



To delete a saved result,

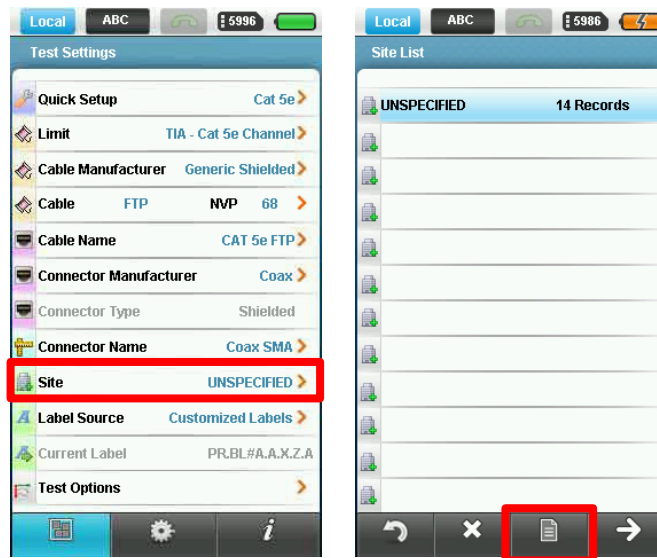
1. Press the DATA button.
2. Select the site where the test results are saved. Click “ok” to proceed.
3. Select result and click “delete” to delete result.



How do I add/select/delete a new site?

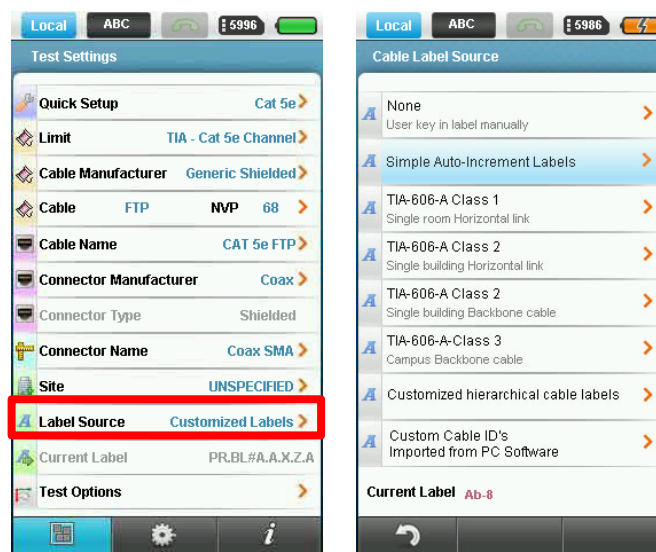
1. Press the SETUP button > Test Settings > Site to begin adding a new site.
2. Click the “new” button to add a new site.
3. Click on the empty field and enter new site name using the keypad on the screen.
4. Click “OK” to continue.
5. Site properties are optional, but they provide additional information of the site.
6. Click “ok” to save site and proceed.

By default, WireXpert creates an “UNSPECIFIED” site for default saving if new sites are not created.



How do I change the labelling scheme for saving test results?

Press the SETUP button > Test Settings > Label Source to choose from a list of scheme.



None

Manual input of label names is required for every saving of result.

Simple Auto-Increment Labels (Simple Label)

Provides simple numeric increments to a prefix.

The image shows two screenshots of the 'Simple Cable Label' app interface. The left screenshot displays the 'Label Name' field with the text 'SimpleLabel'. The right screenshot shows the 'Auto-Increment Cable Label' section, which includes a message: 'Auto-Increment Cable Label suggest the next sequential Cable Id in Testing'. Below this, there are two input fields: 'Enter Start Value' with the value '1' and 'Enter End Value' with the value '9999'.

TIA-606-A Class 1 (Single Room Horizontal Link)

TIA-606-A Class 1 standard labelling scheme mainly used to support labelling for a building or premises that is served in a single equipment room.

The image shows four screenshots of the 'TIA-606-A Class 1 Single Room Horizontal Link' app interface. Each screenshot displays the 'Auto-Increment Start-End Value' section with different configuration options. The first screenshot shows 'Start Value - Floor' (1) and 'End Value - Floor' (1). The second screenshot shows 'Start Value - Telecom Room' (A) and 'End Value - Telecom Room' (A). The third screenshot shows 'Start Value - Panel' (A) and 'End Value - Panel' (A). The fourth screenshot shows 'Start Value - Panel Port' (1) and 'End Value - Panel Port' (9999).

TIA-606-A Class 2 (Single Building Horizontal Link/Single Building Backbone Cable)

TIA-606-A Class 2 standard labelling scheme, mainly used to support labelling of infrastructure with one or more telecommunication spaces in a single building.

The top row shows four screenshots of the 'Class 2 Horizontal Link' configuration screen. The first two show the 'Floor' and 'Telecom Room' tabs, with fields for 'Start Value - Floor' and 'End Value - Floor' (both set to 1). The third shows the 'Panel' tab with 'Start Value - Panel' and 'End Value - Panel' (both set to A). The fourth shows the 'Port / Position' tab with 'Start Value - Panel Port' (set to 1) and 'End Value - Panel Port' (set to 9999).

The bottom row shows four screenshots of the 'Class 2 Backbone Cable' configuration screen. The first two show the 'Telecom Room 1' and 'Telecom Room 2' tabs, with fields for 'Telecom Room 1 - Floor' (1), 'Telecom Room 1 - Name' (A), 'Telecom Room 2 - Floor' (2), and 'Telecom Room 2 - Name' (B). The third shows the 'Backbone Cable' tab with 'Start Value - Backbone Cable' (1) and 'End Value - Backbone Cables' (7). The fourth shows the 'Cable' tab with 'Start Value - Cable' (1) and 'End Value - Cable' (9999).

TIA-606-A Class 3 (Campus Backbone Cable)

TIA-606-A Class32 standard labelling scheme, mainly used to support labelling for multiple buildings in a single site.

The first two screenshots show the 'Class 3 Campus Backbone' configuration screen. The first shows the 'Location 1' tab with fields for 'Building 1 - Name' (A), 'Telecom Room 1 - Floor' (1), and 'Telecom Room 1 - Room' (A). The second shows the 'Location 2' tab with fields for 'Building 2 - Name' (A), 'Telecom Room 2 - Floor' (1), and 'Telecom Room 2 - Room' (Z).

The next two screenshots show the 'Class 3 Campus Backbone' configuration screen. The third shows the 'Backbone Cable' tab with 'Start Value - Backbone Cable' (1) and 'End Value - Backbone Cables' (1). The fourth shows the 'Cable' tab with 'Start Value - Cable' (1) and 'End Value - Cable' (9999).

Customized Hierarchical Cable Labels (Customized Labels)

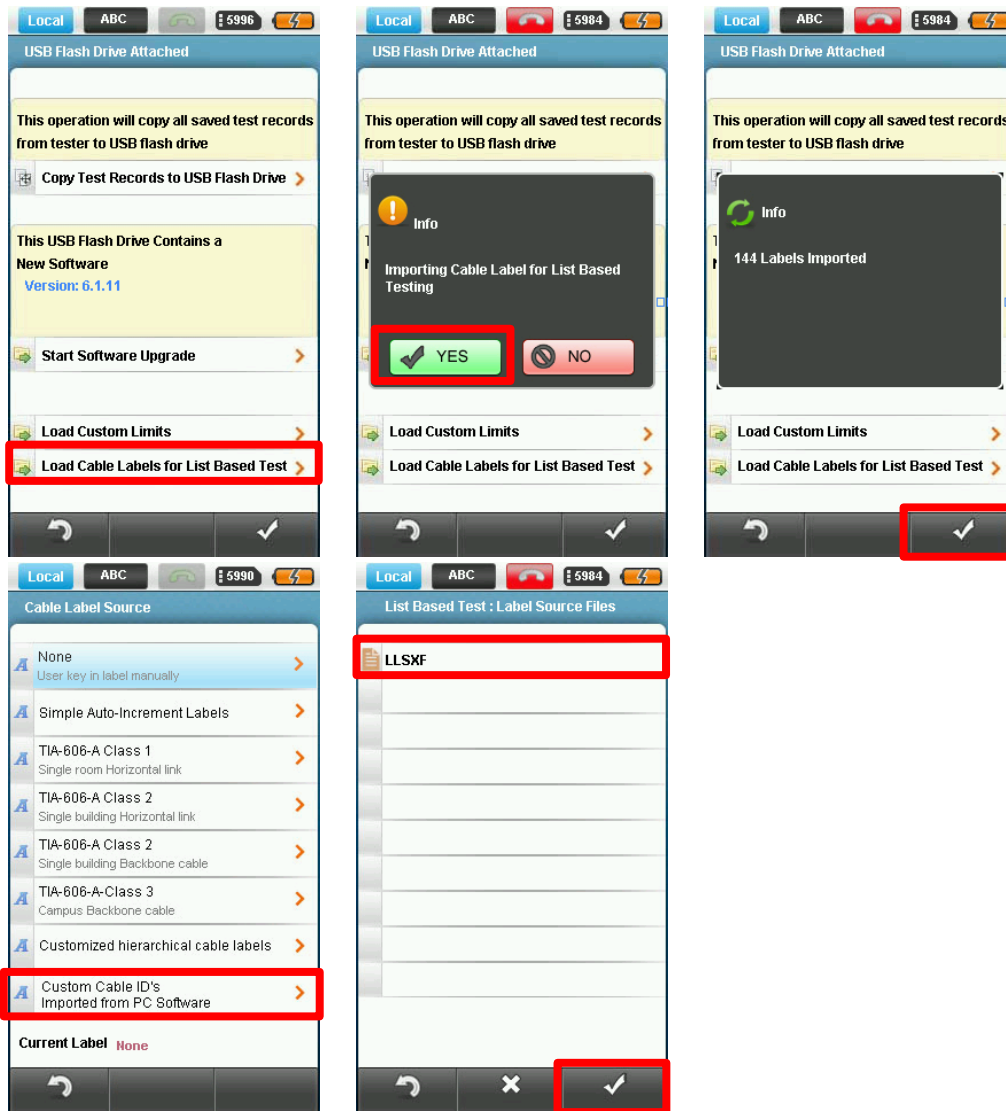
Customized labelling scheme in hierarchical format with prefix to support infrastructure with multiple floors, telecom rooms, racks, patch panels and ports/positions in a single building. *Field tester required to perform certification in sequential order.*

Custom Cable ID's Imported from PC Software (List Based Testing)

Customized labelling scheme in hierarchical format with prefix to support infrastructure with multiple or without floors, telecom rooms, racks, patch panels and ports/positions in a single building generated using eXport software only. Ideal for project managers with specified labelling format. *Field testers can choose which labels to test from the imported labels.*

1. Select or create a Site where the custom list will be used.
2. Insert USB flash drive to USB port on WireXpert.
3. Device will automatically detect USB flash drive.
4. Select "Load Cable Labels for List Based Test".
5. Click "YES" to begin import. Click the "ok" button to proceed.
6. Press the SETUP button > Cable Label Source
7. Select Custom Cable ID's Imported from PC Software

8. Select label source file and click “ok” to continue.



Refer *User Manual – eXport* for more information on generating list based labels.

9. Press the AUTOTEST button to display the loaded cable list.
10. Select label from list to begin autotest.
11. WireXpert will automatically save a PASS result and return to the list, or allows you to save or conduct a re-test for a FAIL result manually.
12. Select a tested label to view the results. A tick indicates a PASS and a cross indicates a FAIL result. A re-test can be conducted by pressing “Retest”.



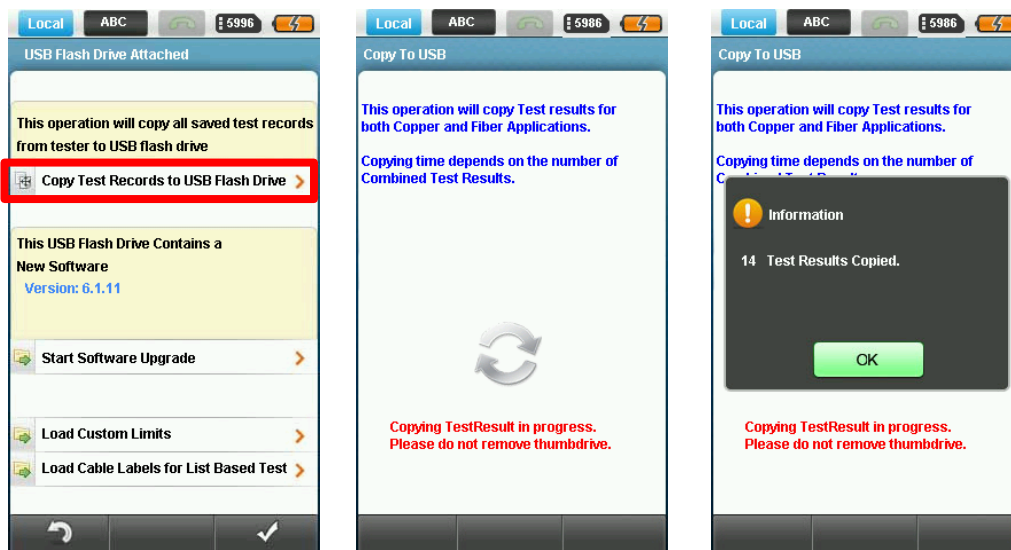
13. Press the “cancel” or AUTOTEST button to return to the list.

How do I export test results into eXport?

eXport is a data management software designed to work seamlessly with WireXpert. Saved results can be exported using the following methods;

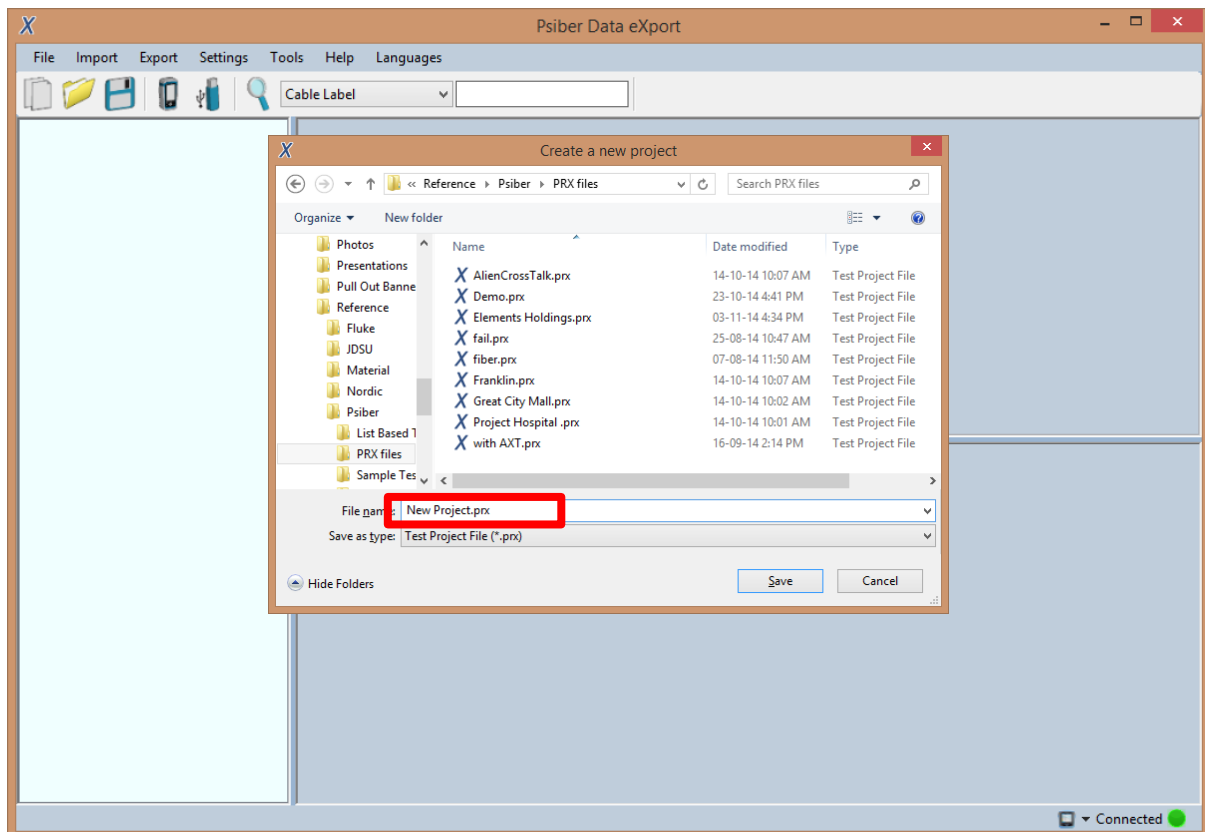
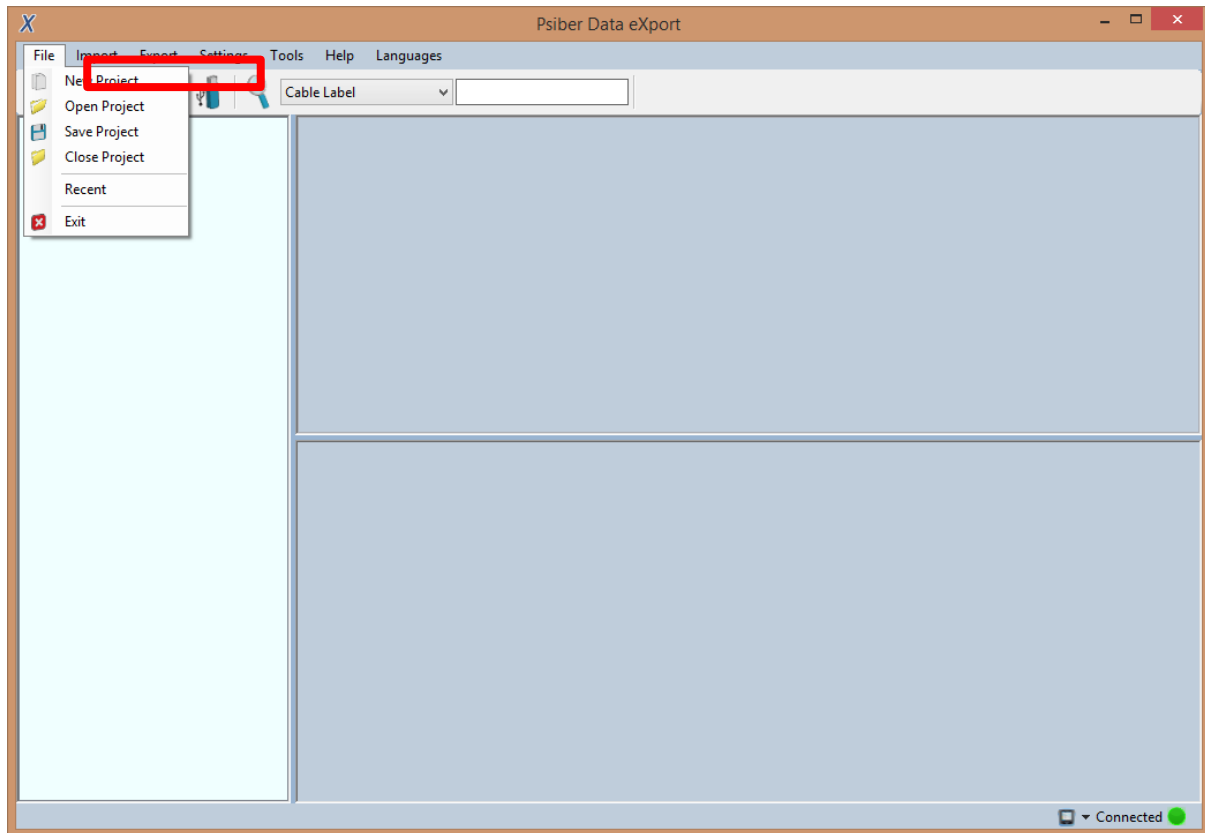
USB Flash Drive

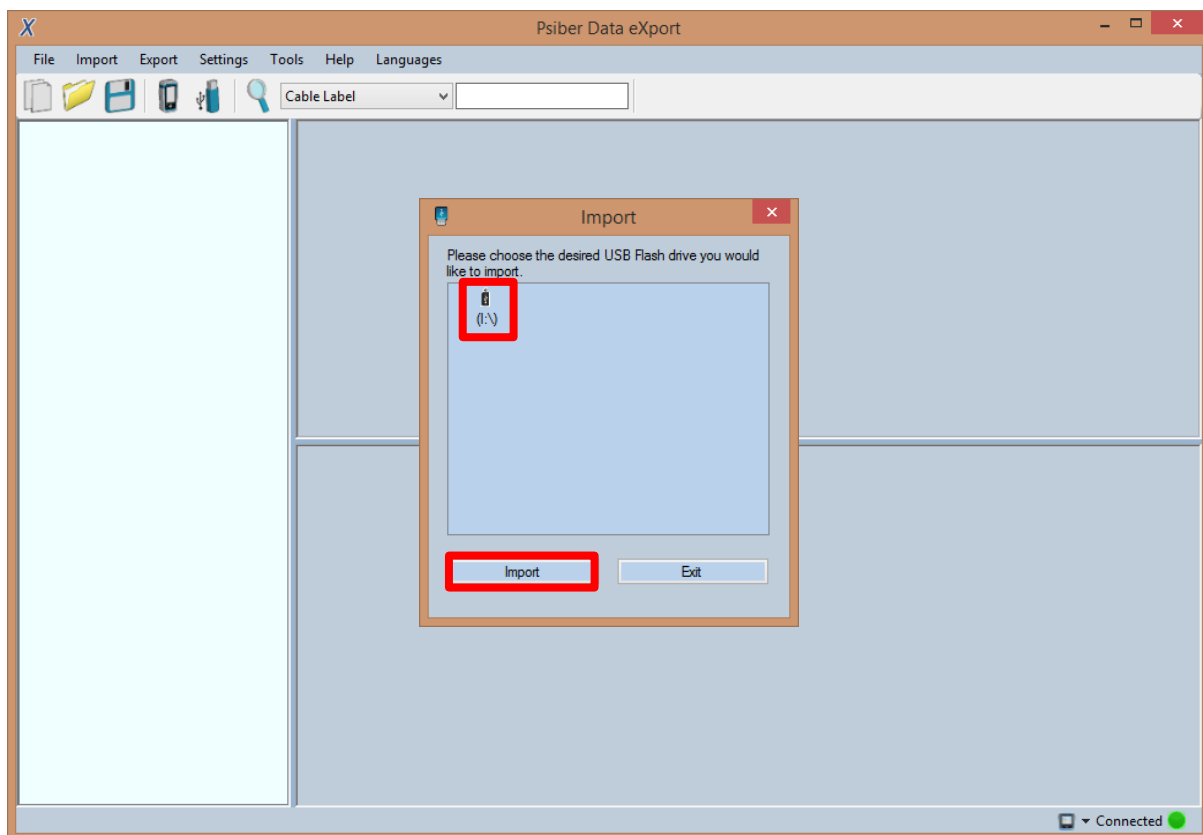
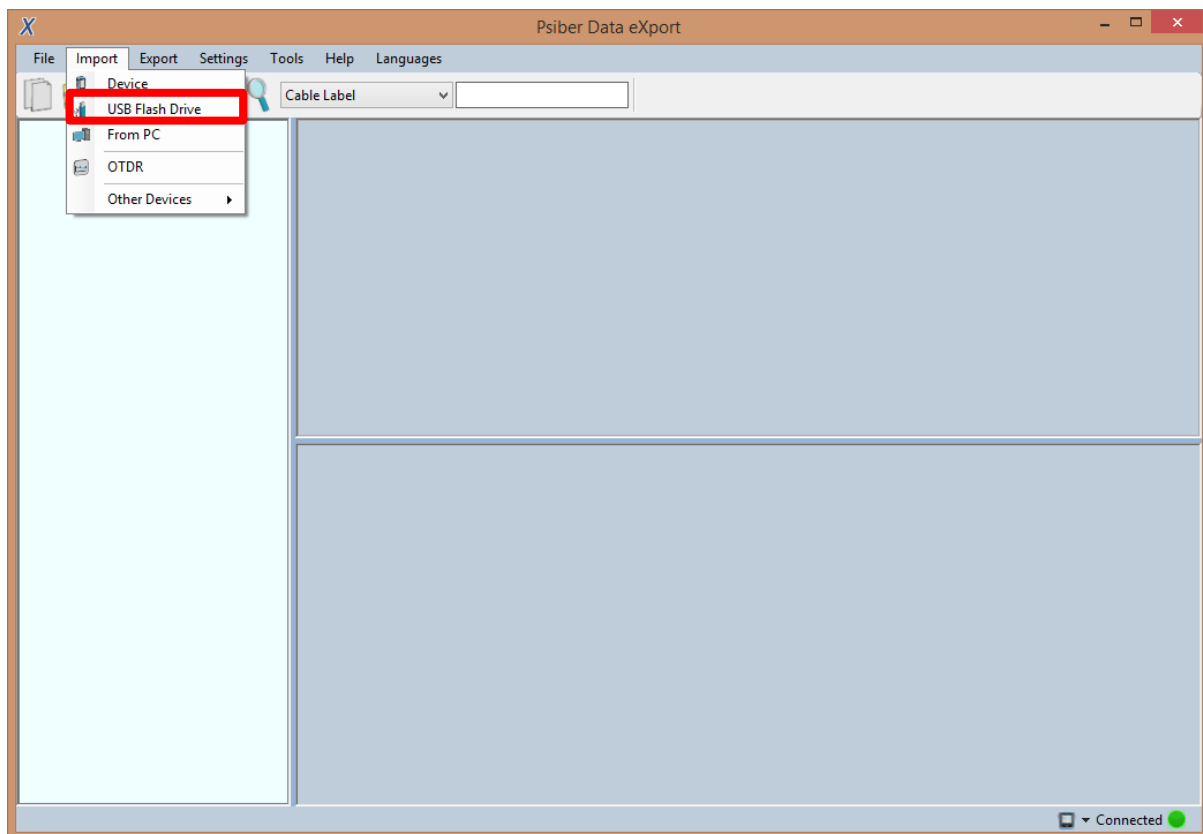
1. Insert USB flash drive to USB port on WireXpert.
2. Device will automatically detect flash drive.
3. Select “Copy Test Records to USB Flash Drive” to begin copy.
4. Click “OK” to proceed.

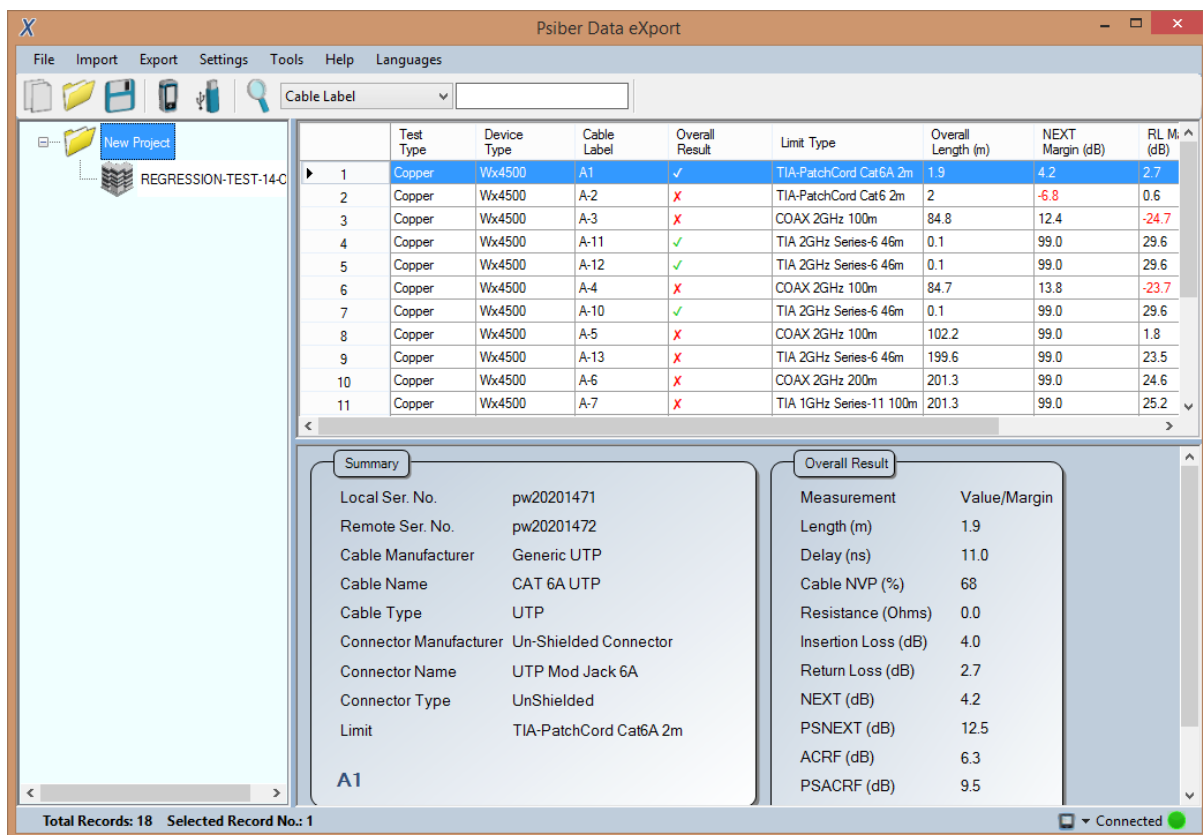
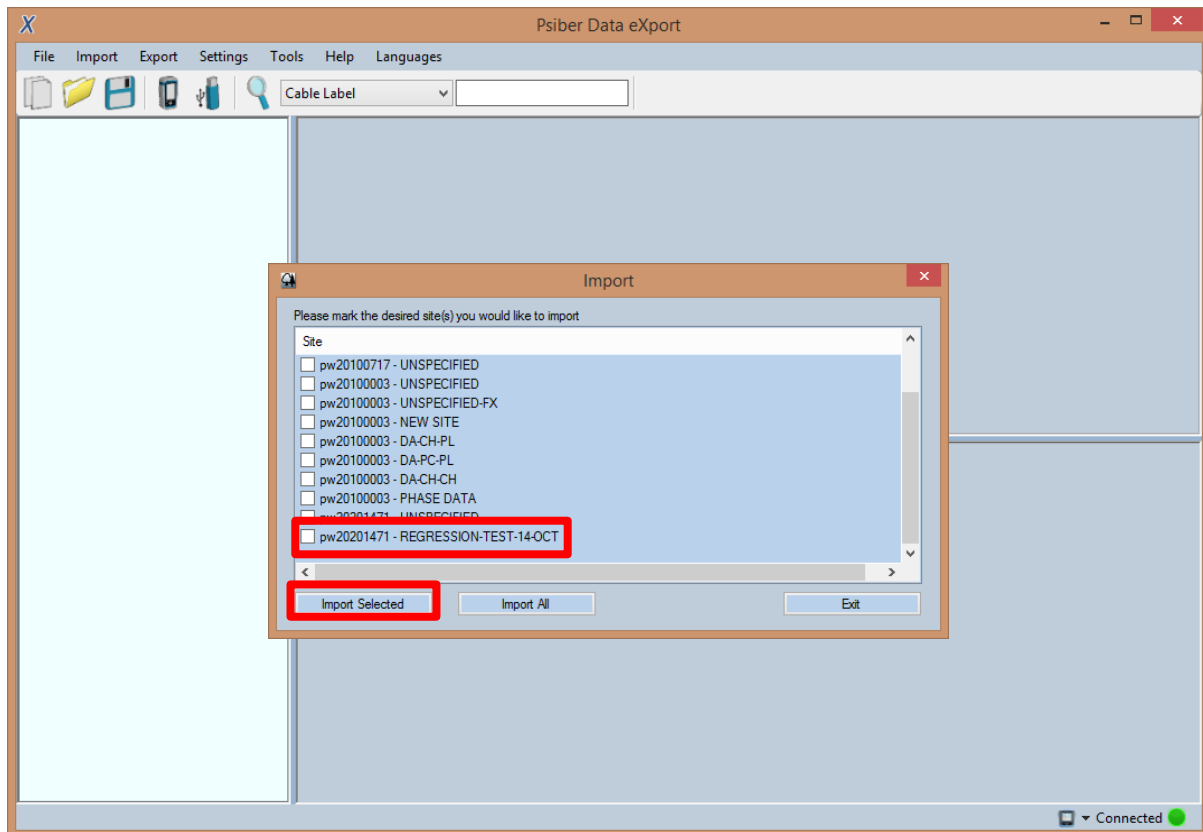


5. Launch eXport software.
6. Go to File > Create New Project to create new project space.
7. Go to Import > USB Flash Drive and select the flash drive. Click “Import”.

8. Select database and click “Import Selected” to import or click “Import All” for all databases.

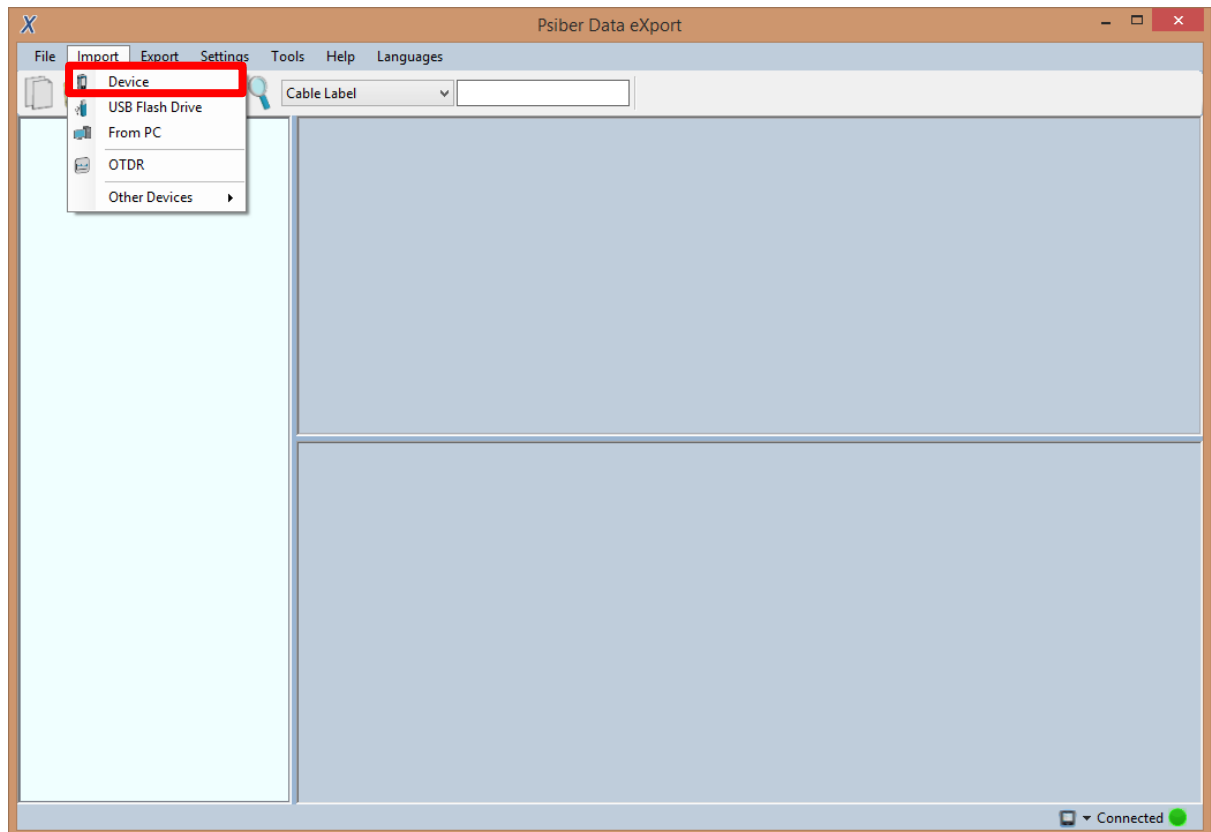


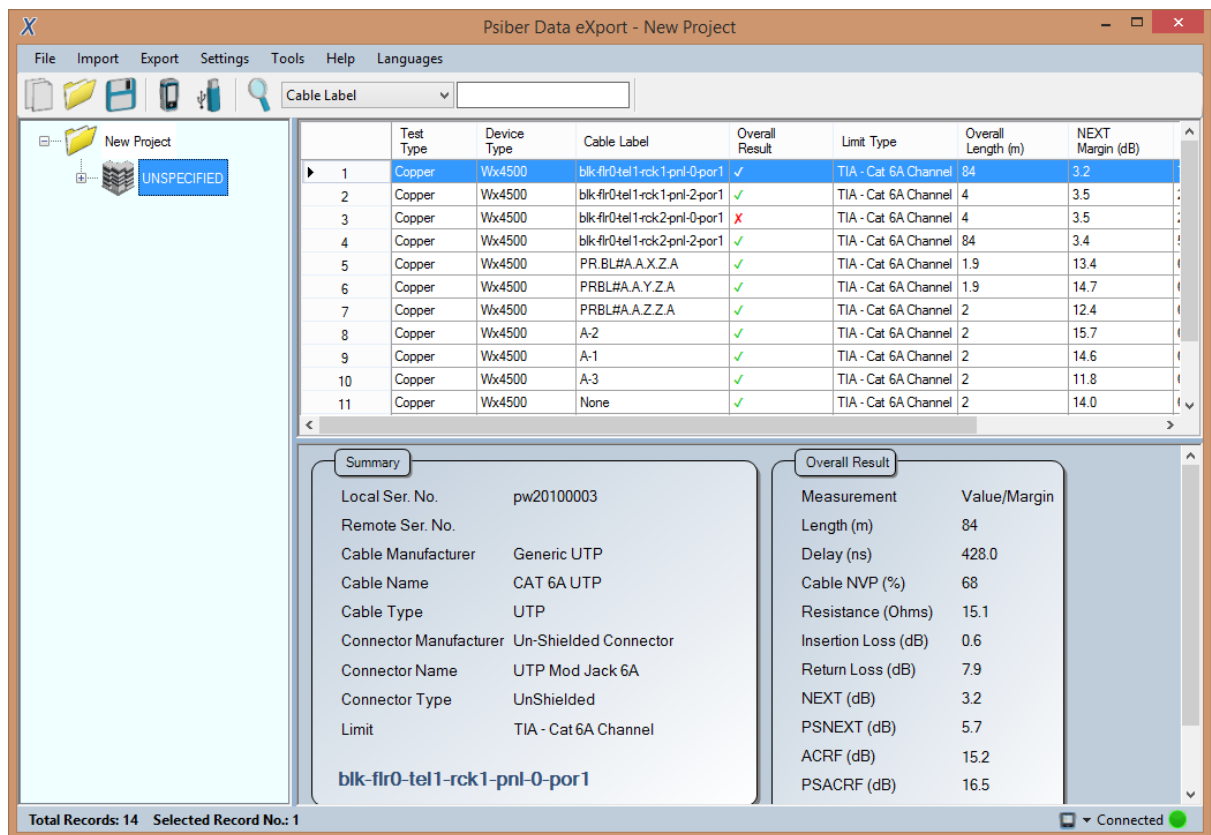
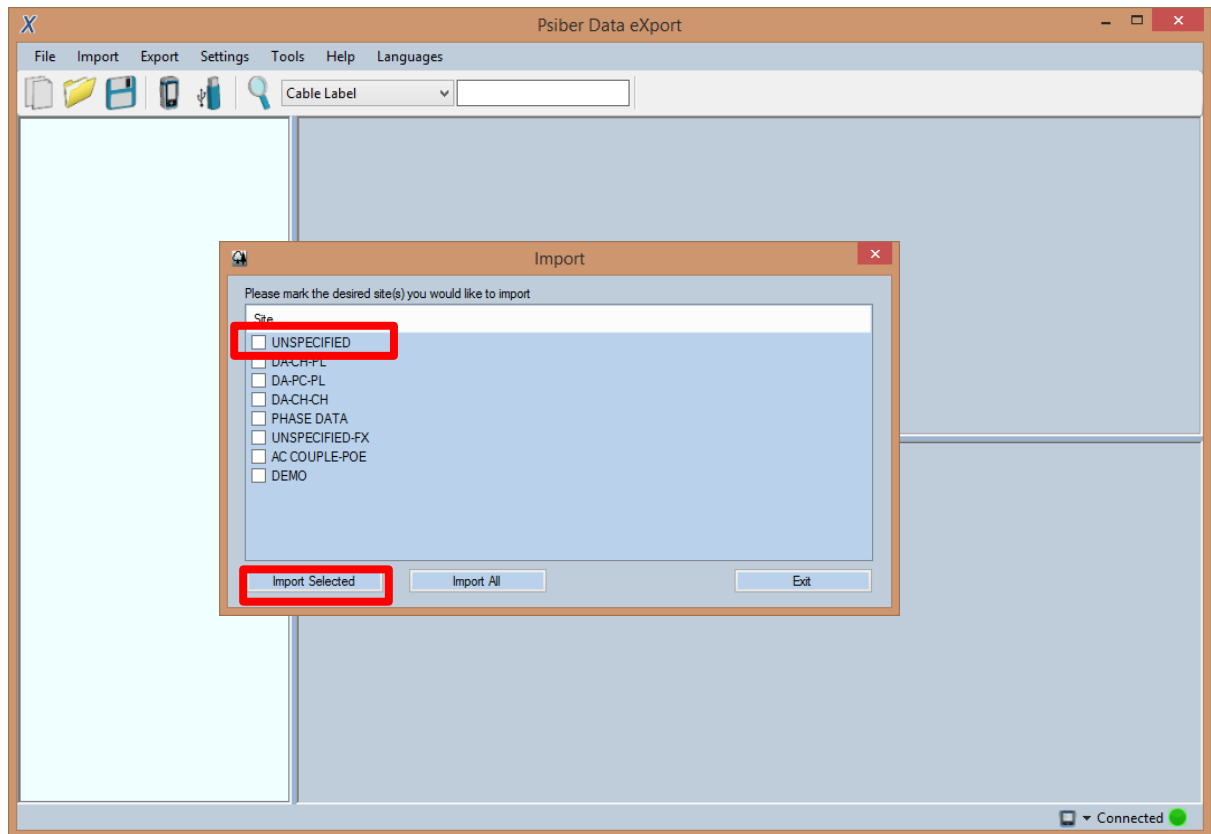




Device (Direct connection via USB cable)

1. Connect WireXpert to your PC using a mini USB cable.
2. Launch eXport software.
3. Go to File > Create New Project to create new project space.
4. Go to Import > Device.
5. Select database and click “Import Selected” to import or click “Import All” for all databases.

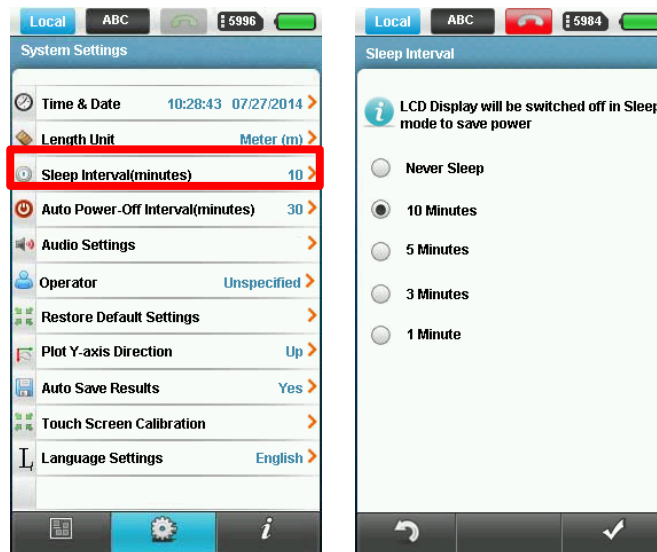




Refer *User Manual – eXport* for more information on how to use the software.

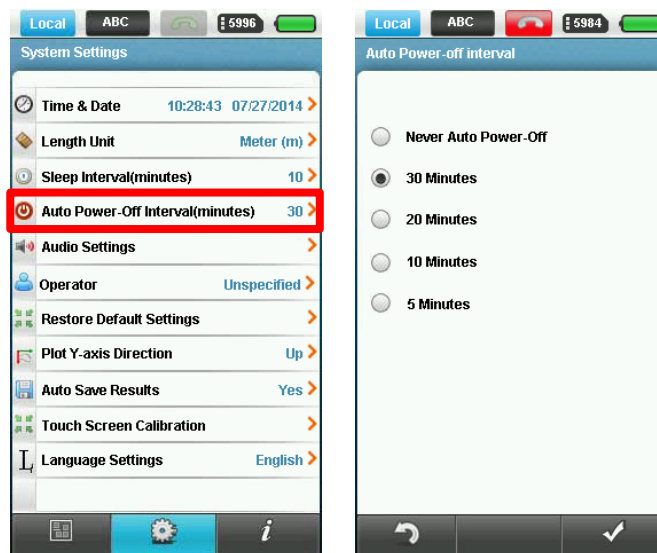
How do I change the Sleep mode setting?

Press the SETUP button > System Settings > Sleep Interval (minutes) to select the idle duration before WireXpert enters the sleep (power saving) mode.



How do I change the Auto Power-off time setting?

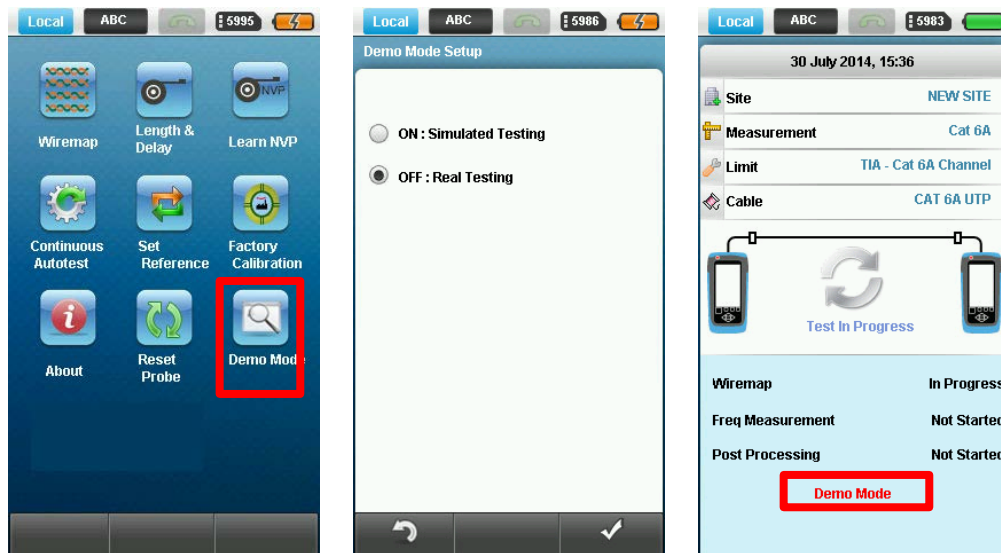
Press the SETUP button > System Settings > Auto Power-Off Interval (minutes) to select the idle duration before WireXpert performs an automatic shutdown.



How do I check if my WireXpert is running in demonstration (demo) mode?

WireXpert can perform simulation tests based on factory saved test results in the device. This can be executed with a single unit without adapter or connection. "Press the TOOLS button > Demo mode to toggle the demo mode.

"Demo Mode" will be indicated if device is running under this mode.

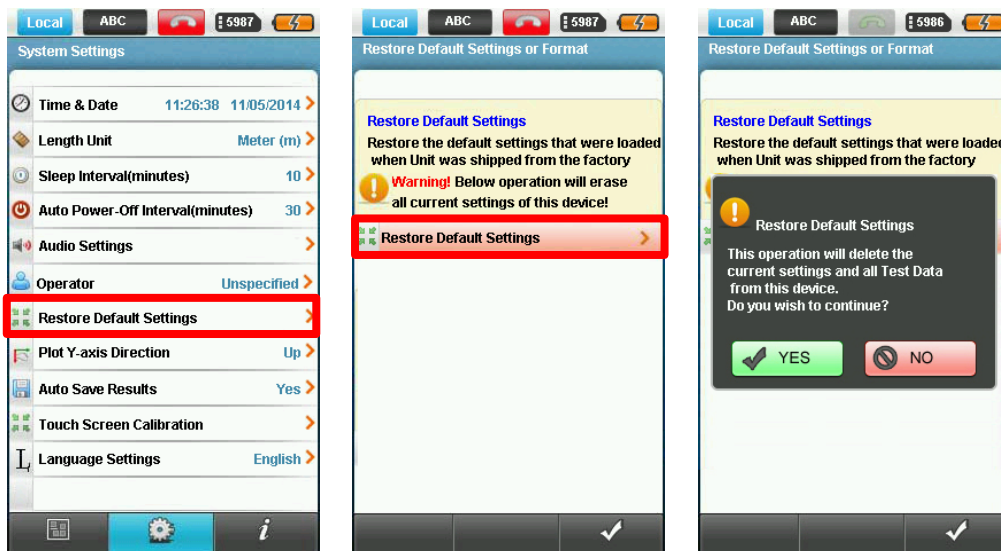


How do I restore my WireXpert to default settings?

Press the SETUP button > System Settings > Restore Default Settings to restore WireXpert to factory settings. Click “YES” to begin restoration.

CAUTION

Restoring WireXpert to default settings is an irreversible action. All user defined settings and stored restores will be erased and **cannot be** recovered.



How do I replace an old battery?

The batteries are located and secured at the bottom of the WireXpert units for safety reasons. To remove the batteries;

1. Switch off WireXpert and disconnect external power supplies.
2. Unscrew the battery compartment and remove the cover.

3. Remove and replace a new battery into the compartment.
4. Close, fasten and secure the screw onto the compartment cover.



Chapter 3: Copper Cable Testing

Setting Up WireXpert

Please ensure you have the following components before conducting the test;

- WireXpert, Local & Remote units (WX4500)

Permanent Link Testing

- 2 x Permanent Link Adapter (WX_AD_6APL)
- 2 x Patch Cord (WX_AD_6APL_CORD)

Channel Testing

- 2 x Channel Adapter (WX_AD_6ACH)



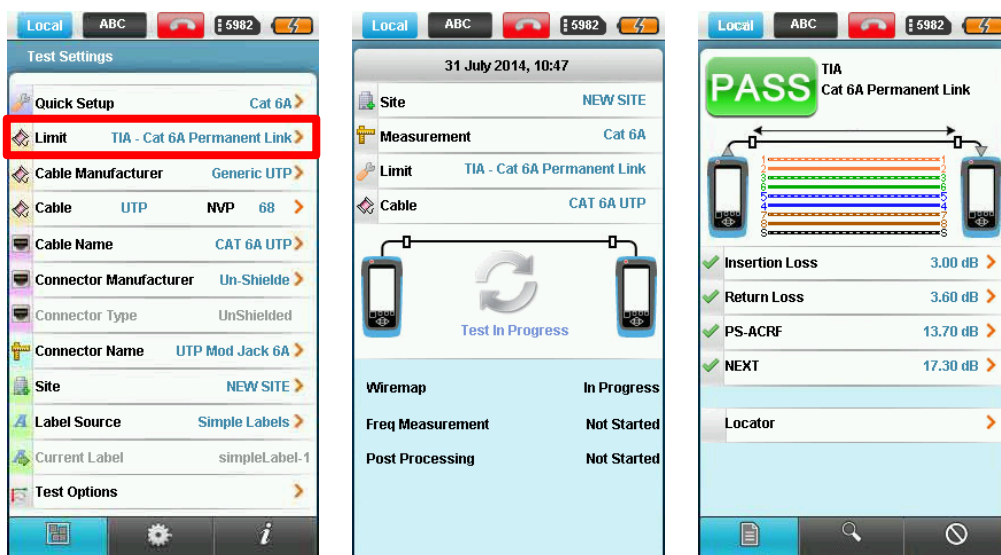
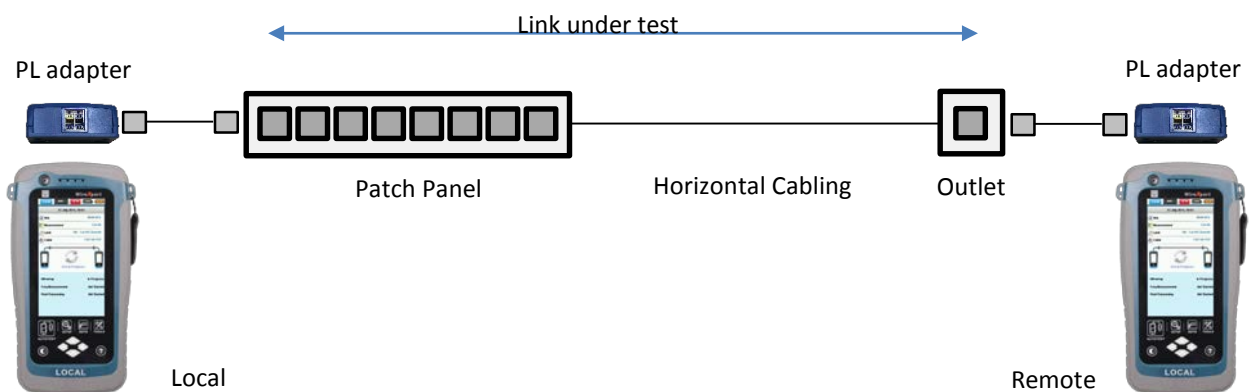
CAUTION

Do not connect WireXpert to a voltage source such as a telephone jack. Excessive voltage will damage the units and the adapter and void the warranty.

Testing Guide for Permanent Link Testing

Permanent Link (PL) test is comprised of the connection from a patch panel to a telecommunication outlet (horizontal cabling) using Permanent Link test adapters at each end of the link under test.

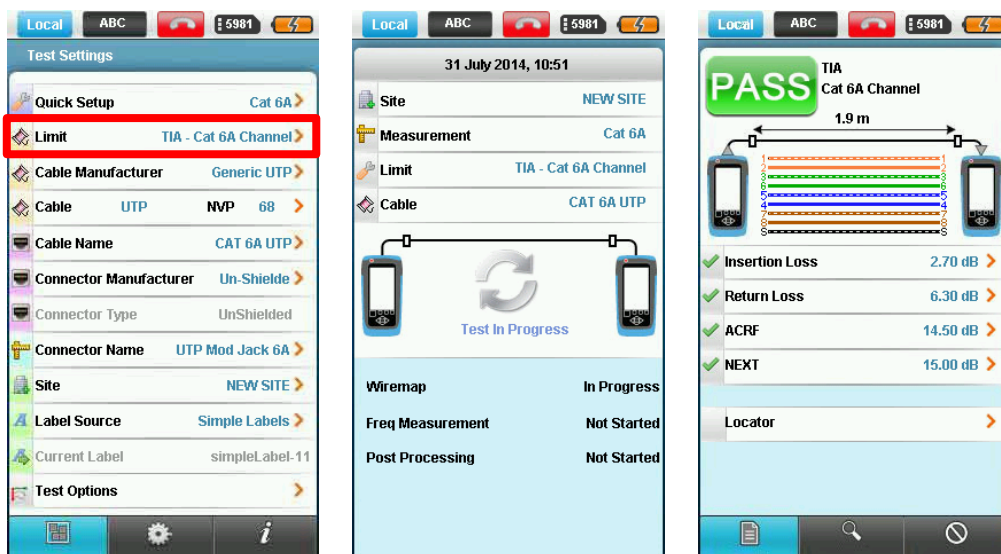
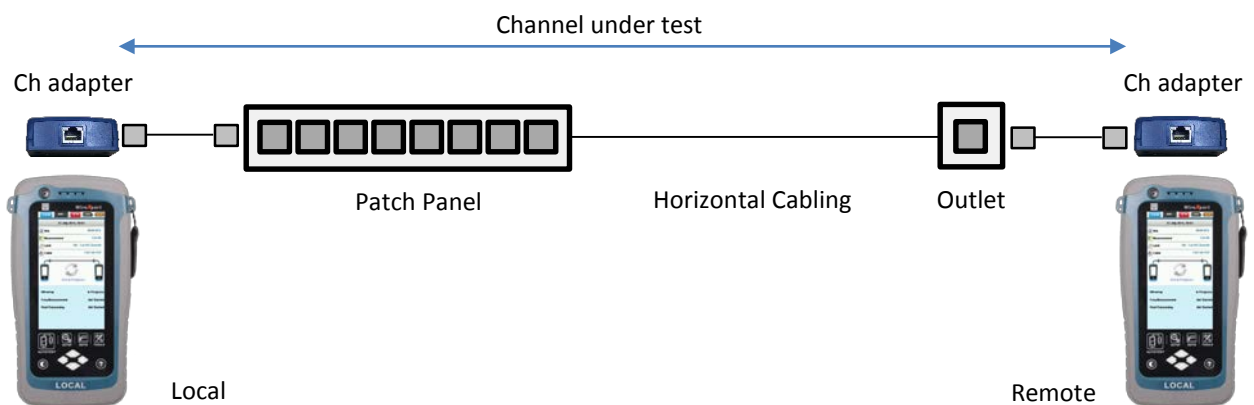
1. Insert the Permanent Link adapters onto the Local and Remote units of the WireXpert.
2. Power ON WireXpert. Check that WireXpert is in Copper testing mode.
3. Set reference is required if the units are being paired for the first time. Refer to Chapter 2 on how to set reference.
4. Choose the Permanent Link limits and configure other settings if necessary.
5. Connect the Local unit to the patch panel and Remote unit to the outlet using the patch cord provided.
6. Press the AUTOTEST button to begin autotest.



Testing Guide for Channel Testing

Channel (Ch) test is comprised of the connection from an active device (egg. Router) in a data rack, a telecommunication outlet (horizontal cabling) and the connecting patch cords at both ends using Channel test adapters at each end of the link under test. The recommended length for the patch cord from the patch panel and the outlet is 5m and 20m respectively.

1. Insert the Channel adapters onto the Local and Remote units of the WireXpert.
2. Power ON WireXpert. Check that WireXpert is in Copper testing mode.
3. Set reference is required if the units are being paired for the first time. Refer to Chapter 2 on how to set reference.
4. Choose the Channel limits and configure other settings if necessary.
5. Connect the Local unit to the patch panel and Remote unit to the outlet using the patch cord connected to be used.
6. Press the AUTOTEST button to begin autotest.



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